DOCUMENT RESUME

ED 434 629 HE 032 407

AUTHOR Barnetson, Robert James
TITLE Academic Capitalism and Accountability in Higher Education.
PUB DATE 1999-07-00
NOTE 212p.; Ph.D. Dissertation, University of Calgary.
PUB TYPE Dissertations/Theses - Doctoral Dissertations (041)
EDRS PRICE MF01/PC09 Plus Postage.
DESCRIPTORS *Accountability; *Capitalism; Case Studies; Definitions; *Educational Finance; Foreign Countries; Government School Relationship; Higher Education; Long Range Planning; Productivity; Public Policy; State Aid; State Colleges; State Universities
IDENTIFIERS *Alberta; *Performance Based Funding

ABSTRACT

This dissertation examines performance-based funding in higher education in Alberta (Canada) using a case study that examined government funding of public higher education in that province. Six hypothesized goals for performance-based funding were developed from the literature, and relevant government documents were analyzed in terms of these goals. The study concluded that: (1) While Alberta's government did seek to increase institutional accountability, it did not introduce performance-based funding to achieve this end; rather, a closely related reporting framework to increase institutional accountability was introduced; (2) Alberta's government did seek to increase institutional responsiveness to governmental goals by introducing performance-based funding; (3) Alberta's government did seek to increase institutional productivity by introducing performance-based funding, although the definition of productivity used might be inadequate to realize increased productivity; (4) Alberta's government did not introduce performance-based funding as a politically feasible way to increase government transfers to institutions; (5) Alberta's government introduced performance-based funding to facilitate the introduction of a broader policy agenda consistent with academic capitalism (i.e., aligning the activities of higher education with the needs of capitalism); and (6) it was not clear whether Alberta's government introduced performance-based funding to legitimize the introduction of a broader policy agenda. (Contains approximately 275 references.) (DB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 434 629

HE

THE UNIVERSITY OF CALGARY

Academic capitalism and accountability in higher education

by

Robert James Barnetson

A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
DEGREE OF DOCTOR OF PHILOSOPHY

GRADUATE DIVISION OF EDUCATIONAL RESEARCH

CALGARY, ALBERTA

JULY, 1999

© Robert James Barnetson 1999

HE 032 407

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

R. Barnetson

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

BEST COPY AVAILABLE

THE UNIVERSITY OF CALGARY

FACULTY OF GRADUATE STUDIES

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "Academic capitalism and accountability in higher education" submitted by Robert James Barnetson in partial fulfillment of the requirement for the degree of Doctor of Philosophy.

A. Boberg

Supervisor, Dr. Alice Boberg
Graduate Division of Education Research

Dr. Nicole Coviello
Faculty of Management

D. G. Shale

Dr. Doug Shale
Office of Institutional Analysis

Dr. Keith Archer
Faculty of Social Sciences

M B Andrews

Dr. Michael Andrews (External Examiner)
University of Alberta

July 13/99

Date

ABSTRACT

The purpose of this case study is to determine what goal(s) the government of Alberta (Canada) sought to achieve by introducing performance-based funding in its higher education system. Six hypothesized goals were developed from the literature, a case study based upon government documents was presented, and the hypotheses were tested against the case study to determine their validity. This study concludes that:

1. Alberta's government did seek to increase institutional accountability to government but did not introduce performance-based funding to achieve this end. Rather, the closely related accountability reporting framework was introduced to increase institutional accountability.
2. Alberta's government did seek to increase institutional responsiveness to governmental goals by introducing performance-based funding.
3. Alberta's government did seek to increase institutional productivity by introducing performance-based funding. The definition of productivity used in Alberta's performance-based funding mechanism, however, may be inadequate to realize productivity.
4. Alberta's government did not introduce performance-based funding as a politically feasible way to increase government transfers to institutions.
5. Alberta's government did introduce performance-based funding to facilitate the introduction of a broader policy agenda consistent with academic capitalism (i.e., aligning the activities of higher education with the needs of the marketplace).
6. It was not possible to determine whether Alberta's government introduced performance-based funding to legitimate the introduction of a broader policy agenda.

By outlining the goals sought by Alberta's government, this study makes it possible to evaluate the successfulness of introducing performance-based funding.

ACKNOWLEDGMENTS

I would like to thank Dr. Alice Boberg for her support and assistance throughout my graduate education. Coming from outside of my discipline, Dr. Nicole Coviello forced me to clearly articulate and support my thoughts at every turn. Dr. Doug Shale was a valuable source of knowledge about methodology as well as Alberta's performance-indicator experiment. Dr. Bryant Griffith's key contribution was his encouragement to be at once unflinchingly honest *and* measured in my assessment of policies. Dr. Mike Andrews brought extensive knowledge of Alberta's post-secondary system, careful editing and vital encouragement to this study. I would also like to thank the external members of both my candidacy and dissertation defense committees for their time and insight.

A number of colleagues have been instrumental in securing documents, sharing their ideas and challenging mine. Lori Morinville and Alan Meech from the Confederation of Alberta Faculty Associations provided me a large number of difficult-to-find documents and gracefully suffered countless conversations about performance indicators. David Milner of the Alberta Colleges & Institutes Faculties Association was extremely accommodating of my academic schedule and interests. Dr. Marti Cleveland-Innes of The University of Calgary provided me with unflagging encouragement and support. Michelle Bezenar of Grant MacEwan Community College was my ever cheerful guide to the Byzantine world of interlibrary loan.

My family—Don, Dad, Mom and Hans—and friends deserve thanks for putting up with my perpetual absence and inconsideration. Christian Rob was exceptionally supportive and never betrayed the slightest hint of boredom at my continual preoccupation while Steve Doolan never betrayed the slightest hint of interest—blessedly demonstrating that there is a whole world largely unconcerned by performance-based funding. Tanis and Demetrios Stamatelakis assisted me in avoiding scurvy, gout and other nutrition-related diseases through a never-ending series of home-cooked meals. Alex Mowat was a source of constant encouragement, insight and good ideas. Maria "my sewer backed up during timed comps" Matthews and Corinne "screw candidacies, I'm going to Scotland" Borbridge served as excellent examples of how to handle the stress of doctoral work while not losing perspective. Well, not too often, anyways.

TABLE OF CONTENTS

Approval page	ii
Abstract	iii
Acknowledgments	iv
Tables of Contents	v
List of Charts and Tables	ix
Epigraph	x
CHAPTER ONE: Introduction	1
1.1 Statement of the problem	1
1.2 Definitions of key terms	1
1.3 Significance	2
1.4 Structure of the dissertation	3
CHAPTER TWO: Method	4
2.1 The research problem	4
2.1.1 The research question	4
2.1.2 Hypotheses	4
2.2 The research perspective	5
2.2.1 Naturalistic research paradigm	5
2.2.2 Qualitative research methods	6
2.2.3 Case study research	7
2.2.4 Research design rationale	8
2.3 Research design	10
2.3.1 Unit of analysis	10
2.3.2 Logic linking data to propositions	10
2.3.3 Data collection and analysis	11
2.3.3.1 Data collection	11
2.3.3.2 Data analysis	11
2.3.4 Credibility and trustworthiness	12
2.3.4.1 Credibility	12
2.3.4.2 Trustworthiness	12
2.3.5 Sources of error	13
2.4 Summary	13
CHAPTER THREE: Literature Review	14
3.1 Conceptualizing policy making	14
3.1.1 The rational approach to policy making	14
3.1.1.1 Evaluating the rational approach	16
3.1.1.2 Using metaphor to evaluate the rational approach	18
3.1.1.3 Summary	20
3.1.2 Non-rational approaches to policy making	20
3.1.2.1 Evaluating non-rational description	21
3.1.2.2 Summary	22
3.1.3 Policy networks and policy communities	23
3.1.3.1 Policy communities	24
3.1.3.2 Policy networks	24
3.1.3.2.1 Pressure pluralist networks	25
3.1.3.2.2 Clientele pluralist networks	26
3.1.3.2.3 Corporatist networks	26
3.1.3.2.4 Concentration networks	26
3.1.3.2.5 state-directed networks	26

3.1.3.3 Types of policy networks and policy making 26
3.1.4 Policy making in Alberta 27
3.1.5 Summary 28
3.2 Performance-based funding 29
3.2.1 Resource allocation and performance-based funding 29
3.2.1.1 Incremental and formula funding 29
3.2.1.2 Incentive funding 30
3.2.1.3 Performance-based funding 31
3.2.1.4 Advantages and disadvantages 31
3.2.2 Performance indicators 38
3.2.3 Performance-based funding and the New Public Management 40
3.2.3.1 The impact of economic globalization 40
3.2.3.2 Resurgence of Canadian conservatism 41
3.2.3.3 The evaluative state and the New Public Management 42
3.2.4 Summary 44
3.3 Increasing accountability through performance-based funding 44
3.3.1 Definitions of accountability and regulation 45
3.3.2 Model of accountability 46
3.3.3 Increasing accountability with performance-based funding 47
3.3.4 Theorized pattern of evidence 48
3.4 Increasing institutional responsiveness 48
3.4.1 Using performance-based funding to increase responsiveness 49
3.4.2 Model of organizational functioning 50
3.4.2.1 Goals and behaviours 50
3.4.2.2 Behaviours and outcomes 51
3.4.2.3 Outcomes and rewards 52
3.4.2.4 Rewards and goals 52
3.4.2.5 Behaviour and rewards 52
3.4.2.6 Goals and outcomes 52
3.4.3 Theorized pattern of evidence 53
3.5 Increasing institutional productivity 53
3.5.1 Productivity and quality in higher education 53
3.5.2 Improving productivity with performance-based funding 55
3.5.3 Theorized pattern of evidence 57
3.6 Increasing institutional grants 57
3.6.1 Political constraints to increasing funding 57
3.6.2 Using performance funding to increase transfers 58
3.6.3 Theorized pattern of evidence 59
3.7 Facilitating a policy agenda through performance-based funding 59
3.7.1 Performance-based funding as a policy instrument 59
3.7.2 PIs and PBF as conceptual technologies 61
3.7.3 Emergence of academic capitalism in the Commonwealth 65
3.7.4 Facilitating the introduction of academic capitalism 68
3.7.5 Theorized pattern of evidence 68
3.8 Legitimating a policy agenda through performance-based funding 69
3.8.1 Using PBF to legitimate the introduction of a policy agenda 69
3.8.2 Theorized pattern of evidence 70
3.9 Summary 71

CHAPTER FOUR: Case study 74
4.1 Alberta's political history 74
4.1.1 Alberta's political history 74
4.1.2 Emergent themes in Alberta politics 76
4.2 The Klein revolution and public sector reform 77

4.2.1 Reinventing the Conservative Party 77
4.2.2 Reducing public expenditures 78
4.2.2.1 Alberta's economic position in 1993 79
4.2.2.2 Maintaining the Alberta Advantage 79
4.2.2.3 Legitimating the decision to reduce public spending 80
4.2.2.4 Summary 83
4.2.3 Restructuring Alberta's public sector 83
4.2.4 Summary 85
4.3 Higher education policy in Alberta 86
4.3.1 Alberta's higher education system 86
4.3.2 Alberta's higher education policy in the 1990s 89
4.3.2.1 Government policy reviews 89
4.3.2.2 Education and labour market development 92
4.3.2.3 The commercialization of research 94
4.3.3 Funding changes in Alberta's higher education system 96
4.3.3.1 Government grants 96
4.3.3.2 Tuition increases 97
4.3.3.3 Access Fund 97
4.3.3.4 Learning Enhancement Envelope 98
4.3.3.5 Research Excellence Envelope 99
4.3.3.6 Intellectual Infrastructure Partnership Programs 99
4.3.3.7 Infrastructure Renewal Envelope 101
4.3.3.8 Performance Envelope 102
4.3.3.9 Summary 102
4.3.4 Summary 103
4.4 Implementing an accountability framework and PBF 103
4.4.1 Alberta's accountability reporting framework 103
4.4.1.1 increasing institutional accountability 103
4.4.1.2 Overall government accountability 106
4.4.1.3 Introducing accountability to Alberta's PSE sector 107
4.4.1.4 Linking the accountability framework with PBF 119
4.4.2 Performance-based funding in Alberta 119
4.4.2.1 Developing performance-based funding 120
4.4.2.2 How performance-based funding is allocated 121
4.4.2.3 Alberta's performance indicators 122
4.4.2.4 Preliminary results 126
4.4.2.5 Revising performance-based funding in Alberta 127
4.4.3 Summary 131
4.4 Summary 131

CHAPTER FIVE: Analysis 132
5.1 Performance-based funding and institutional accountability 133
5.1.1 Theorized pattern of evidence 133
5.1.2 Evidence from the case study 133
5.1.3 Assessing the evidence 138
5.1.4 Assessing the plausibility of the conclusion 139
5.2 Performance-based funding and institutional responsiveness 140
5.2.1 Theorized pattern of evidence 140
5.2.2 Evidence from the case study 140
5.2.3 Assessing the evidence 143
5.2.4 Assessing the plausibility of the conclusion 144
5.3 performance-based funding and institutional productivity 145
5.3.1 Theorized pattern of evidence 145
5.3.2 Evidence from the case study 145

5.3.3 Assessing the evidence 149
5.3.4 Assessing the plausibility of the conclusion 150
5.4 Performance-based funding and government transfers 151
5.4.1 Theorized pattern of evidence 151
5.4.2 Evidence from the case study 152
5.4.3 Assessing the evidence 153
5.4.4 Assessing the plausibility of the conclusion 154
5.5 Performance-based funding facilitating a broader policy agenda 154
5.5.1 Theorized pattern of evidence 154
5.5.2 Evidence from the case study 155
5.5.2.1 Government statements 155
5.5.2.2 Government policy 160
5.5.2.3 The role of performance-based funding 161
5.5.2.4 Impact of policy changes 166
5.5.3 Assessing the evidence 167
5.5.4 Assessing the plausibility of the conclusion 168
5.6 Performance-based funding legitimating a broader policy agenda 169
5.2.1 Theorized pattern of evidence 169
5.2.2 Evidence from the case study 170
5.2.3 Assessing the evidence 171
5.2.4 Assessing the plausibility of the conclusion 172
5.7 Summary 172

CHAPTER SIX: Conclusion 174
6.1 Statement of the problem 174
6.2 Conclusion 175
6.2.1 Hypothesis One 175
6.2.2 Hypothesis Two 175
6.2.3 Hypothesis Three 175
6.2.4 Hypothesis Four 176
6.2.5 Hypothesis Five 176
6.2.6 Hypothesis Six 177
6.3 Limitations 177
6.3.1 Using solely documentary evidence 177
6.3.2 Framing policy making as a rational activity 177
6.3.3 Generalizability 178
6.4 Directions for future research 178
6.4.1 Assessing the effectiveness of performance-based funding 178
6.4.2 Comparative analysis of the goals of PBF 179
6.4.3 Typology of embedded assumptions 179

REFERENCES 180

LIST OF FIGURES

Figure 3.1	Different configurations of policy networks	25
Figure 3.2	Queen's accountability framework	45
Figure 3.3	Model of organizational functioning	50
Figure 3.4	Improving productivity by quality assurance, assessment and control	56
Figure 3.5	Example performance indicator	63
Figure 4.1	Alberta' PBFM learning component indicators	123
Figure 4.2	Alberta's PBFM research component indicators	125
Figure 4.3	Proposed structure of the Performance Envelope	130

EPIGRAPH

Upon this gifted age, in its dark hour,
Falls from the sky a meteoric shower
Of facts... they lie unquestioned, uncombined.
Wisdom enough to leech us of our ill
Is daily spun; but there exists no loom
To weave it into fabric....

—Edna St. Vincent Millay, Huntsman, What Quarry

CHAPTER ONE

Introduction

This case study examines the introduction of performance-based funding to Alberta's higher education system. Section 1.1. presents the research question and hypotheses. Section 1.2 defines the study's key terms. Section 1.3 explains the study's significance. Section 1.4 explains the study's structure.

1.1 Statement of the problem

The study explores the reason(s) for the introduction of a performance-based funding mechanism in Alberta's higher education system by asking:

1. What goal(s) did the provincial government hope to achieve by introducing performance-based funding to Alberta's higher education system?

Six hypotheses about this question were developed from a review of the literature:

1. Performance-based funding has been introduced because it will increase institutional accountability to government.
2. Performance-based funding has been introduced because it will increase institutional responsiveness to governmental goals.
3. Performance-based funding has been introduced because it will increase institutional productivity.
4. Performance-based funding has been introduced because it is a politically feasible means of increasing government transfers to institutions.
5. Performance-based funding has been introduced because it facilitates the introduction of a broader policy agenda.
6. Performance-based funding has been introduced because it legitimates the introduction of a broader policy agenda.

1.2 Definitions of key terms

The focus of this study is performance-based funding in Alberta. As its name suggests, *performance-based funding* is a method of resource allocation that provides

funds to institutions based upon their performance. This is a significant change in how resources are allocated in Alberta's higher education system. Traditionally, resources have been provided in anticipation of a performance. Performance-based funding is provided subsequent to a performance in much the same way that goods are paid for by a consumer after they have been manufactured.

Performance-based funding evaluates an institution's performance by using performance indicators. *Performance indicators* are measures of institutional inputs, processes, products, outputs and outcomes. They are generally quantitative (i.e., numeric) and imply a goal. For example, measuring an institution's level of graduate employment and rewarding higher levels of graduate employment suggests that institutions should increase the level of their graduates' employment.

Performance-based funding is operationalized through a *performance-based funding mechanism*. This mechanism takes an institution's scores on several performance indicators, calculates an overall level of performance (perhaps by assigning points to the institution's score on each performance indicator) and then ties that overall level of performance to a reward in a formulaic manner.

1.3 Significance

As outlined in Chapter Four, Alberta's government has implemented a series of new policies and policy instruments in its higher education sector since 1994, including a performance-based funding mechanism. There has been little effort on the part of Alberta's government to evaluate the effectiveness of these policies or to determine their impact on the higher education system. This study was undertaken as the first step in evaluating the effectiveness and impact of performance-based funding.

One way to evaluate the effectiveness of a new policy is to determine what goal(s) the policy was designed to achieve and see if these goals were attained. In other jurisdictions, performance-based funding has been implemented to achieve one or more of six goals. Evaluating the effectiveness of performance-based funding in Alberta requires determining which goals Alberta's government was hoping to achieve by implementing performance-based funding. The purpose of this study is, then, to clarify what those goals were in order to facilitate a subsequent examination of the effectiveness of performance-based funding.

1.4 Structure of the thesis

This thesis has six chapters. Chapter One introduces the study. Chapter Two outlines the study's case study method and explores how plausibility can be used to ensure the case study's credibility and trustworthiness given the inapplicability of reliability and validity.

Chapter Three reviews the relevant literature. Section 3.1 examines alternative conceptualizations of policy making and why it is appropriate to frame the implementation of performance-based funding as a rational (i.e., goal-directed) activity. Section 3.2 summarizes the literature on performance-based funding by discussing alternative methods of resource allocation, assessing institutional performance with performance indicators and exploring controversial issues related to using performance-based funding. Sections 3.3 through 3.7 discuss the various reasons why performance-based funding has been implemented in other jurisdictions and the issues relevant to using performance-based funding to achieve these goals. An expected pattern of evidence is developed for each of the six hypothesized goals that performance-based funding may have been implemented to achieve.

Chapter Four presents the case of performance-based funding in Alberta. Section 4.1 outlines Alberta's political history from 1905 to 1992. The post-1992 reforms to Alberta's public sector are summarized in Section 4.2. Section 4.3 presents Alberta's higher education policy from 1989 to 1999. Section 4.4 outlines the development of both Alberta's accountability reporting framework and the performance-based funding mechanism that is derived from the framework's indicators. Chapter Five tests each hypothesis against the evidence presented in the case study to assess the hypothesis' validity. Chapter Six outlines the study's conclusions, limitations, and directions for future research.

CHAPTER TWO

Method

This chapter outlines the study's research method. The study is a naturalistic inquiry using an analytical approach to data derived from qualitative research. Section 2.1 outlines the research question and hypotheses. Section 2.2 examines the research perspective. The research design is explained in Section 2.3.

2.1 The research problem

The research question outlined in Section 2.1.1 was developed during an initial review of Alberta's higher education policy. Subsequent analysis of the literature (presented in Chapter Three) yielded the six hypotheses presented in Section 2.1.2.

2.1.1 The research question

The reason for the introduction of a performance-based funding mechanism (PBFM) in Alberta's higher education system is examined by asking:

1. What goal(s) did the provincial government hope to achieve by introducing performance-based funding to Alberta's higher education system?

The current ambiguity surrounding the government's reasons for implementing performance-based funding prevents an evaluation of the policy's successfulness. The rationale for exploring the government's goal(s) for introducing performance-based funding and indeed for describing the introduction of performance-based funding as the pursuit of a goal(s) is outlined in Section 3.1.4 below.

2.1.2 Hypotheses

Six hypotheses regarding the research question were developed based upon the literature review presented in Chapter Three. As Weirsma (1995) notes, hypotheses developed at the beginning of qualitative research that involves historical work are not hypotheses in the statistical sense (although statistical data could be used to support or refute them). Rather, the "hypotheses are conjectures about the characteristics, causes or effects of the situation, issue or phenomenon under study" (p. 237). In this study, the hypotheses are conjectures regarding what goal(s) the

government sought to achieve when it introduced performance-based funding to Alberta's higher education system. The six hypotheses are:

1. Performance-based funding has been introduced because it will increase institutional accountability to government.
2. Performance-based funding has been introduced because it will increase institutional productivity.
3. Performance-based funding has been introduced because it will increase institutional responsiveness to governmental goals.
4. Performance-based funding has been introduced because it is a politically feasible means of increasing government transfers to institutions.
5. Performance-based funding has been introduced because it facilitates the introduction of a broader policy agenda.
6. Performance-based funding has been introduced because it legitimates the introduction of a broader policy agenda.

The hypotheses are fully developed in Chapter Three and serve as that chapter's organizing principle. Section 3.9 outlines the patterns of evidence that are expected if each hypothesis is valid.

2.2 The research perspective

This study follows the naturalistic paradigm in that it seeks to develop a holistic interpretation of what goals the government sought to achieve by introducing performance-based funding in Alberta's higher education system. This study's research method is qualitative: intensive document analysis creates a thick description of the case of Alberta's higher education policy from the perspective of policymakers. The naturalistic paradigm is described in Section 2.2.1 and qualitative methods are discussed in Section 2.2.2. Case study methods are outlined in Section 2.2.3. Section 2.2.4 outlines the rationale for using the case study approach.

2.2.1 Naturalistic research paradigm

Guba and Lincoln (1994) posit that research paradigms are sets of ontological (i.e., the nature of reality and what can be known about it), epistemological (i.e., relationship between knower and knowledge) and methodological (i.e., the process of knowing) assumptions. Naturalistic research seeks to develop a holistic

interpretation of phenomena that includes the role of the environment (Weirsma, 1995). Incorporating such a breadth of environmental variables makes it difficult to separate systemic and random fluctuations which is why naturalistic research often focuses on descriptive inference (i.e., understanding an unobserved phenomenon on the basis of a set of observations) rather than on causal inference (King, Keohane and Verba, 1994). Positivistic research, on the other hand, tends to focus on developing causal inferences by controlling for key environmental variables. Positivism was considered an inappropriate approach to research for this study because of the expected importance of complex and difficult to operationalize environmental factors.

It is important to distinguish between paradigms (i.e., naturalistic) and research methods (i.e., qualitative). Owens (1982) notes that:

> Although *naturalistic* alludes to the ways in which one may seek to examine reality and these ways emphasize the wholeness and phenomenological interrelatedness of the real world, *qualitative* alludes to the nature of understanding that is sought... enabling the investigator to see the "real world" as those under study see it. Thus, qualitative description is not the exclusive territory of the naturalistic inquirer. Positivists can and do use qualitative methods in their investigations (p. 7).

In order to determine what goals the government sought to achieve by introducing performance-based funding, it is necessary to incorporate the impact of Alberta's policy environment. This requires a naturalistic approach.

2.2.2 *Qualitative research methods*

As Owens (1982) notes above, qualitative research methods are not the exclusive domain of the naturalistic paradigm. Despite this, naturalistic research tends to rely more heavily on qualitative methods and the evidence that it provides. This approach is premised upon the belief that perception—entailing data selection and interpretation—is impacted by experience and values and incorporating the impact of environmental factors requires understanding how individuals construct their world. Generally, qualitative researchers interact with subjects (e.g., face-to-face interviews, open-ended questionnaires, etc.) to develop an understanding of the "real world" as those under study see it. As outlined below, these research methods were considered inappropriate and intensive document analysis was substituted.

Further, this study is of policy which is the outcome of the intentions and actions of multiple participants. Inferring how groups construct the world from documents requires that the researcher reconcile the content and interpretation of the documents with the actions of participants.

2.2.3 Case study research

Case studies use multiple forms of evidence to examine phenomena where the division between subject and context is unclear and the context is hypothesized to contain important explanatory variables. The purpose of case studies is explore the reasons decisions were made, their implementation and their result (Yin, 1993). Stake (1995) notes that case studies examine systems because systems provide the boundaries and purposes around which an explanatory narrative may be built. The unclear division between subject and context as well as the expected explanatory importance of the context often makes case studies poor candidates for research that seeks to make causal inferences (King et al., 1994). Case studies are an excellent methodology when research focuses on descriptive inference (i.e., understanding unobservable phenomenon based upon visible evidence) because they consider contextual factors and incorporate a wide range of evidence.

The case study process is ambiguous with data collection and analysis occurring simultaneously (Yin, 1984). Observation leads to tentative hypotheses that require further observation for confirmation or rejection. An initial case study protocol is developed outlining questions, data sources, and tentative propositions. These are subsequently revised based on the development of the case study. Initial data analysis entails consolidation, reduction and interpretation in order to generate initial conclusions and a coherent story (Merriam, 1988). Intensive data analysis involves examining the entire record and intuitively fleshing out categories of data and themes that cut across the entire case study as well as triangulating evidence (Yin, 1994). Eventually, this process leads to inference and theorizing about the underlying structures within the data.

This approach is consistent with Labaree's (1998) characterization of educational research as soft because the interaction between researchers and subjects as well as multiple and indeterminate causal relationships make findings difficult to reproduce and validate. Case studies provide a way to understand and convey the loose

causality of education. Focusing on descriptive inference (in this case, determining what goals the government was trying to achieve by implementing performance-based funding) impedes making statistical generalization (i.e., as in the sample, so too in the population) about the case study's results. In this study, the sample and the population are one and the same. The results do have analytical generalizability though: the study's results (i.e., the goals the government was trying to achieve by implementing performance-based funding) may be used in conjunction with the results from other cases to develop, confirm or refute a broader theory about the introduction of performance-based funding in higher education internationally.

Case studies are frequently used to analyze policy. Policy analysis examines how policy is made and its results (Pal, 1992a). The process of policy development is further explored in Chapter Three. The policy analysis process is iterative, informed by intuition and judgment as well as by information and advice supplied by others (Gill and Saunders, 1992). There are two main types of policy analysis: philosophical treatments that selectively combine the literature, data and existing research findings to support an argument; and empirical studies of problems focused on data collection and analysis rather than synthesis (Majckrzak, 1984). This division is mirrored in case study research in the form of intrinsic and instrumental studies (Stake, 1995). *Intrinsic* case studies are undertaken to increase one's understanding of a phenomenon. *Instrumental* case studies are undertaken to provide the insight necessary to refine or formulate a theory. Hybrid case study designs are common.

2.2.4 *Research design rationale*

Answering the research question requires a detailed description of Alberta's higher education policy and performance-based funding mechanism and how they were impacted by environmental pressures. The case study design provides the contextual information necessary to make descriptive inferences while maximizing the use of available data sources (Yin, 1994). The four characteristics of case studies make this research design most appropriate to this problem. Case studies are:

1. *Particularistic*—Case studies examine specific phenomenon to reveal what the phenomenon is and might represent.

2. *Descriptive*—Case studies result in a rich description of a phenomenon that incorporate the contextual information to confirm or refute hypotheses.
3. *Heuristic*—Case studies illuminate readers' understanding of the phenomenon by explaining the operation and assumptions of performance-based funding.
4. *Inductive*—Case studies allow generalized models to emerge from the data. This case study may identify key variables for future research on the introduction of performance-based funding (Merriam, 1988).

Further, by providing a thick description, a case study will create a greater understanding of phenomenon than other research approaches can (Stake, 1995). Experimental and quasi-experimental research is not possible because there was no opportunity for behavioral control (i.e., manipulating a variable). Further, the complex causality of policy making makes it difficult to identify and operationalize key independent and intervening variables and model their relationships with one another and the dependent variable in a manner amenable to statistical analysis. By drawing upon multiple forms of evidence and providing a thick description of Alberta's higher education policy, the case study approach appears better suited to answer the research question.

Survey research (including open-ended questions) requires at least a minimal *a priori* determination of important variables which impedes getting at how participants constructed the experience. Although *ex post* facto survey research does allow the determination of relationships and effects occurring between variables in some cases, survey research is subject to many of the same weaknesses as interviews, namely that the controversial nature of the topic coupled with the researcher's position as an advocate for an interest group suggests the data gathered would be unreliable (assuming it would be available at all). Ethnographic research is a more appropriate way to address the research question than survey, experimental or quasi-experimental research in that it provides an in-depth analytical description of specific cultural situation. Unfortunately, the events of interest largely occur in the past, making observation and participation impossible. Again, a case study appears to be a better approach because it maximizes the data available to assess the hypotheses with. For these reasons, a case study approach was adopted.

2.3 Research design

Yin (1994) outlines five components of case study research designs. The statement of the problem and the hypotheses were outlined earlier in Sections 2.1.1 and 2.1.2 respectively. The unit of analysis is described in Section 2.3.1. The logic linking data to the hypotheses and the criteria for interpreting the findings are outlined in Section 2.3.2. Section 2.3.3 explains the process of data collection and analysis. Section 2.3.4 describes credibility and trustworthiness as guidelines for ensuring quality and rigor. Potential sources of error are described in Section 2.3.5.

2.3.1 Unit of analysis

The units of analysis are the specific policies and policy instruments that, when aggregated, comprise Alberta's higher education policy. This level of analysis stems from examining both a specific policy (i.e., the performance envelope) and its policy instrument (i.e., the performance-based funding mechanism) and relating these to other policies and policy instruments within the broad framework of Alberta's higher education policy.

The level of analysis is Alberta's higher education policy at the system level. The level of analysis was dictated by the research question: the goals that a system-wide policy (such as performance-based funding) seeks to achieve requires exploring how policy is made within Alberta's higher education policy community (i.e., at the system level). An analysis of its implementation would, however, need to be made at the institutional level. The system level was also chosen because of the large number of documents available at this level and their high degree of accessibility

2.3.2 Logic linking data to hypotheses and criteria for interpreting findings

These areas of case study design are less well developed than others (Yin, 1994). The analysis presented in Chapter Five clearly outlines the evidence presented in the assessment of each of the hypotheses. Parsons' theory of plausibility is used to judge the rigor of descriptive inferences during the assessment of each hypotheses:

1. *Coherence*—does the explanation or theory make sense?
2. *Consistency*—is the internal reasoning of the explanation or theory sound?

3. *Comprehensiveness*—to what degree does the theory or explanation encompass the phenomena and are there competing explanations of equal comprehensiveness?
4. *Parsimony*—is the explanation or theory in the simplest form that adequately explains the phenomena? (Parsons, 1995, p. 67; Weirsma, 1995, pp. 5–9, 19)

2.3.3 Data collection and analysis

Case study designs are characterized by simultaneous data collection and analysis. Initially, data collection was the main activity but eventually analysis eclipsed collection in terms of time and effort. The orderly and gradual progression suggested belies the iterative nature of case study research where testing tentative hypotheses required substantial additional data collection in the midst of analysis.

2.3.3.1 Data collection—The controversial research topic suggested that primary and secondary documents would be a more reliable source of information than interviews. Consequently, government documents relating to higher education policy, the accountability reporting framework and the performance-based funding mechanism from 1989 to 1998 (as well as relevant, earlier materials) were secured and reviewed. Secondary source materials were also secured and reviewed. The primary and secondary sources were supplemented by informal, direct observation by the researcher between 1996 and 1998 (e.g., meeting with bureaucrats and elected representatives as part of the researcher's job). The initial review of the material and the feedback suggested that expanding the scope of the case study would be profitable and additional primary and secondary material on economic policy, political history, and ideology was collected.

2.3.3.2 Data analysis—The process of data collection and analysis began in September, 1996 . Upon entry into the doctoral program in September, 1997, a chronology of Alberta's higher education policy was completed and the researcher began developing an explanatory frame—relating specific policies to policy themes and policy themes to broader political goals. In turn, political goals were explained in terms of pressures faced by politicians. A draft of the case study was developed and circulated to other members of the policy community for comment[1]. This led to

[1] Various versions of the initial case study were circulated to: Alan Meech, executive director of the Confederation of Alberta Faculty Associations, David

the substantial expansion in the scope of data collection and subsequent analysis noted above. The emergent themes led to a review of the international literature on the use of performance-based funding in higher education. Subsequent feedback on an earlier draft of this thesis resulted in a recasting of the thesis to narrow its focus, provide greater conceptual clarity and provide for stronger and clearer articulation between the evidence and the conclusion.

2.3.4 Credibility and trustworthiness.

Although validity and reliability are difficult to address in case study research because of the fundamentally different assumptions of naturalistic research, some way to assess the rigor of research is necessary. This can be addressed by examining the credibility and trustworthiness of the research.

2.3.4.1 — Credibility parallels positivism's validity but accepts that research results are constructed by researchers based upon their interaction with the subject (Kincheloe, 1991). This rejects belief in the existence of an external reality separate from the researcher (Hawkesworth, 1988). The credibility of the research conclusions is judged based upon the comprehensiveness and accuracy of the research process (i.e., were all available data sources utilized? was their use in context? were all alternative interpretations addressed?). The use of credibility rather than validity reflects that social scientists use and require a different form of knowledge than physical scientists. Rather than research findings that are statistically generalizable, case study findings are analytically generalizable (i.e., supporting or contradicting broad theories about situations through the discovery of similarities and differences between the case and the theory). This reflects that social scientists (particularly those in applied fields) deal with unique situations where complexity precludes applying generalized causal models. More useful are research results that provide guidance in raising questions and considering possibilities via the broad patterns they highlight.

2.3.4.2 — Trustworthiness is the degree of plausibility of the study's conclusions and replaces the positivist conception of reliability. Reliability provides validation (or

---

Milner, president of the Alberta Colleges & Institutes Faculties Association and Raj Pannu, MLA for Edmonton-Strathcona and New Democrat Advanced Education critic.

invalidation) of generalizable causal models that positivist research seeks to develop. That the messy interaction between researcher, subject and environment in naturalistic research makes replication of results difficult, is not an indictment of naturalistic research because its purpose is not to create invariable causal models (Labaree, 1998). Rather, naturalistic research is designed to describe the world. Merriam (1988) suggests that by creating a thick description for the reader, the issue of the reliability (i.e., trustworthiness) of the interpretation is passed along to the reader. Leaving a clear audit trail (e.g., generous citation to source materials) provides readers with the opportunity to make their own judgments about whether they would arrive at conclusions similar to those of the researcher.

2.3.5 Sources of error

Two potential sources of error arise specific to this case study. One of those stems from the heavy reliance on primary documents as evidence. While informal observation and secondary documents are also used, no interviews were conducted. This is an unusual approach for a case study. The controversial nature of the subject, the difficulty posed in securing interviews, and the incentive for interviewees to revise their recollections in order to be seen in the best possible light all suggested that interviews were inappropriate. The heavy reliance on government documents allows readers to judge the trustworthiness of my assessments because the evidence is available in the public record. A second source of error is the possibility of bias in explanation because of the researcher's role as an advocate for an interest group. Again, the clear audit trail and explicit reasoning behind each descriptive inference allow the reader to judge the credibility and trustworthiness of the research.

2.4 Summary

This study is a naturalistic inquiry using an analytic approach to data derived from qualitative research. A case study approach will be used to explore what goals the government expected to achieve by introducing performance-based funding because the context is expected to yield important explanatory information. Bias and a lack of interviews were mitigated as sources of error in this study by rigorous and systematic inquiry based upon relevant documents. Chapter Three contains the literature review and is organized around the six hypotheses outlined on page 5.

CHAPTER THREE

Literature Review

This chapter outlines the literature on performance-based funding in higher education. Section 3.1 outlines various ways to conceptualize policy making and validates this study's decision to examine the goal(s) government sought to achieve by implementing performance-based funding. Section 3.2 summarizes the literature on performance-based funding as background to Sections 3.3 through 3.8. Sections 3.3 through 3.8 discuss the literature as it relates to each of the six hypotheses outlined in Chapter Two. Section 3.9 summarizes the pattern of evidence that is expected to appear in the case study if each hypothesis is true. Chapter Four presents a case study of Alberta's higher education policy with special attention to performance-based funding.

3.1 Conceptualizing policy making

This section outlines various ways to conceptualize policy making and the assumptions underlying each approach. Identifying different ways to think about policy making and the way most relevant to describing policy making in Alberta's higher education system is necessary in order to justify focusing on government actions and government goals. Section 3.1.1 outlines the rational approach to describing policy making in organizations. Non-rational approaches to describing policy making such as the "garbage-can" model are discussed in Section 3.1.2. The concepts of policy networks and policy communities are outlined in Section 3.1.3. Section 3.1.4 explores policy making in Alberta and validates this study's decision to examine the goal(s) government sought to achieve by implementing performance-based funding. Section 3.1.5 summarizes policy making as it relates to this thesis.

Section 3.1.1 The rational approach to policy making

One approach to describing the policy making process in organizations is as a rational activity. In this model, a policy actor completes five steps in making a decision (adapted from Hogwood and Gunn, 1984, p. 45):

1. *Intelligence gathering*—The policy maker systematically scans the horizon to identify all present and potential problems and opportunities.
2. *Identifying all options*—Several alternatives to problems or opportunities are identified and considered in detail.
3. *Assessing consequences of options*—The policy maker identifies the costs and benefits of all policy options.
4. *Relating consequences to values*—The facts developed in the three steps above are related to a set of criteria derived from important values.
5. *Choosing the preferred option*—Given a full understanding of all problems, opportunities and consequences and their relationship to important values, the policy maker chooses an option and moves towards implementation.

An alternative approach to rational policy making is to set objectives first and then examine options. This approach might look like (Hogwood and Gunn, 1984, p. 46):

1. Define and rank governing values.
2. Specify objectives compatible with these values.
3. Identify all relevant options or means or achieving these objectives.
4. Calculate all the consequences of these options and compare them.
5. Choose the option or combination of options which would maximize the values earlier determined to be most important.

Both of these models assume that policy makers are attempting to realize a goal. This assumption is important to subsequent discussion because the presumption that organizations act to achieve goals is the key premise upon which allocating funding based upon performance rests. These models are *ideal models* (i.e., models that make unrealistic assumptions about the world to increase our understanding of actual behavior such as economists' assumption of perfect markets) and it is unfair to criticize the rational model as unrealistic in that realism is not its purpose.

It is, however, important to explore the assumptions about how organizations operate underlying rational approaches to policy making because the assumptions made dictate our approach to managing and evaluating organizations. For example, if we assume that organizations set policy in order to accomplish goals, then it is reasonable to assess organizations based upon their goal attainment and to attempt

to manipulate their performance by affecting goal formation. If that assumption is incorrect, then measuring goal attainment may be an inappropriate criterion by which to judge an organization. One approach to determining the utility of thinking about policy making as a rational activity is to explore how reasonable the assumptions underlying this approach are. The results of this analysis are presented in Section 3.1.1.1. A second approach to exploring the utility of thinking about policy making as a rational activity is to outline the metaphors we use for goal-oriented organizations and explore the strengths and weakness of those metaphors. This approach is presented in Sections 3.1.1.2. Section 3.1.1.3 summarizes the rational approach to describing policy making.

3.1.1.1 Evaluating the rational approach to describing policy making. Three inter-related concepts permeate discussion of rational policy making: (1) the pre-existence of purpose, (2) the necessity of consistency in choice and (3) the primacy of rationality (March, 1976). A fourth (implicit) premise is that policy is made by a single policy maker or policy making body (Parsons, 1995). These assumptions are examined below:

1. *Pre-existent purpose*—Assuming action is the pursuit of goals "reflects a strong tendency to believe that a useful interpretation of human behavior involves defining a set of objectives that (a) are prior attributes of the system and (b) make the observed behavior in some sense intelligent, vis-à-vis those objectives" (March, 1976, p. 70). Outcomes are then explained in terms of goal attainment. Action, however, may occur for reasons unrelated to planning and goal attainment, including: executing standard operating procedures and fulfilling role expectations, duties or earlier commitments; defining virtue and truth during which the organization discovers or interprets what has happened to it, what it has been doing, what it is going to do, and what justifies its actions; distributing glory or blame for what has happened in the organization and thus exercising, challenging or reaffirming friendship or trust relationships, antagonisms, or power or status relationships; expressing and discovering "self-interest" and "group interest", specializing and recruiting (to organizational positions or to informal groups); and having a good time, enjoying the pleasures connected to taking part in a choice situation (March and Olsen, 1976a, pp. 11–12).

March (1976) notes that models relying on rationality discount the importance of both intuition (where individuals may act without fully articulated reasons) and tradition (where action is chosen by reference to precedent). Stone (1988) suggests that the assumption of rationality fails to incorporate the impact of loyalty, cooperation and influence on choices. In this way, explaining actions as the pursuit of goals creates an unnecessary temporal relationship. Activity (caused by intuition, tradition, loyalty, etc.) may lead to the discovery of important (but previous unknown) goals. This poses a major challenge to rational theories of policy making that rely on a traditional ordering of goals and actions, particularly when action is evaluated based upon the assumption that it is in pursuit of goals.

2. *Consistency of choice*—Consistency between intentions and outcomes is the basis of evaluation in rational approaches to policy making and is predicated upon the traditional ordering of goals, behavior and outcomes (March, 1976). If goals develop or change during action (such as they might if policy making is a process of discovering or interpreting organizational mission or past actions), consistency becomes an irrelevant criterion of judgment. This suggests that developing evaluative criteria *a priori* may fail to fully capture the outcomes of action and fail to be an appropriate measure of organizational performance.

3. *Rationality of choice*—Assuming rationality in policy making—that is, "a procedure for deciding what is correct behavior by relating consequences systematically to objectives" (March, 1976, p. 70)—is difficult to substantiate. The tradition of adaptive rationality assumes a simple model of experiential learning: action is taken; the environment responds; the response is interpreted and evaluated; and new action reflects the learning generated by the sequence (March and Olsen, 1976b). If the relationship between cause and effect is ambiguous at any stage, then the inferred causal relationship necessary for rational policy making is deficient. A more reasonable approach to rationality in policy making is to assume that learning is intended but that "(a) what happened is not immediately obvious, (b) why it happened is obscure, and (c) whether what happened was good is unclear" (March and Olsen, 1976b, p. 59). The implication is that an individual's ability to systematically relate

consequences to objectives is impaired and that rational policy making is difficult to execute. Birnbaum's (1988) cybernetic organization (see Section 3.1.1.3 below) copes with this impairment by placing priority on avoiding actions that result in undesirable consequences.

4. *Existence of a decision-maker*—Further eroding the case for rational policy making are multiple policy makers and policy making points. This exacerbates the tendency of goals to change during action and for incorrect inference of causal relationships as well as adding a political element to decision making. Organizational policy making is about collective action in a community and, therefore, requires both collective will and effort and is influenced by community norms and history. The reification this involves is both fallacy (i.e., aggregative bodies do not have independent will) and truth (i.e., this is the best possible description of the process). Loyalty, influence and cooperation are used to create the consensus necessary for collective action. This makes the group the primary unit of society and undermines the notion of autonomous (i.e., utility maximizing) policy making.

This analysis suggests multiple impediments to describing policy making a rational activity. As discussed above, a second approach to determine how useful it is to think about policy making as a rational activity is to examine the metaphors used to describe organizations and their relative strengths and weaknesses.

3.1.1.2 Using metaphor to evaluate the rational approach to describing policy making

Exploring organizations by examining metaphors assumes that organizations are in large measure symbolic inventions—existing because we believe in them and premised upon socially constructed values, beliefs and meanings—and, therefore, the metaphors used to describe them are indicative of the assumptions made about their operations (Sfand, 1998; Morgan, 1997; Harman, 1990; Birnbaum, 1988). Rational models of policy making view organizational activity as the pursuit of goals. This assumption is expressed in mechanical and political metaphors for organizations.

Bureaucracies and bureaucratic aspects of organizations invoke a *mechanical metaphor*: ordered relation between clearly defined organizational components yield routinized, impersonal and predictable operation (Morgan, 1997; Wilson, 1989;

Baldridge, Curtis, Ecker and Riley, 1978). A tight coupling between organizational elements is assumed whereby changes in one part of the system result in immediate changes in others (Birnbaum, 1988). Scientific approaches to management stem from this metaphor and assume that organizations can and should operate rationally in the pursuit of goals (Chaffee, 1983). Organizations based upon a mechanical metaphor operate best when tasks are straight forward, the environment is stable, products are uniform, production processes are precise and workers are compliant (Morgan, 1997; Baldridge, 1971a). These conditions broadly characterize industrial-era manufacturing. Although the mechanical metaphor addresses questions of authority, it glosses over issues of power (Harman, 1990).

Comparing institutional processes to those of *politics* brings attention to power, conflict, legitimacy, and competing interests. Describing decision processes by focusing on conflict and negotiating in institutions is consistent with the mechanical metaphor in the assumption that actors are pursuing pre-existent goals (Parsons, 1995; Baldridge, 1971b). It differs in its recognition that organizations tend to be internally fragmented with factions driven by their own and variable intentions, beliefs and values (Pross, 1992; Birnbaum, 1988). The deterministic basis of the mechanical metaphor is distinct from the probabilistic basis of other metaphors because other metaphors recognize the significant duality of control (based upon different systems of authority) within institutions. Administrative authority (predicated upon the control and coordination of activities) is consistent with mechanical metaphor where professional authority (based upon autonomy and individual knowledge) is not reconciled within a mechanical perspective (Schön, 1982; Baldridge et al., 1978). Power in organizations can stem from formal authority, control of scarce resources, use of organizational structure and processes, control of knowledge, information and technology, participation in interpersonal alliances and control of meaning (Morgan, 1997; Birnbaum, 1988). The political metaphor explains institutional functioning in the absence of mutually agreed upon goals and centralized power: coalitions negotiate goals that subsequently determine activities. Organizations and their purposes tend to be stable because coalitions dominate institutional processes. The weakness of the political metaphor is that it may underestimate the impact of routine bureaucratic processes in dictating institutional behaviors as well as identifying and framing problems.

3.1.1.3 Summary—As noted in the discussion of the mechanical and political metaphors for organizations outlined above, rational approaches to policy making assume that institutions are pursuing pre-existent goals. In this way, rational approaches to policy making support managing and evaluating institutions based upon goal attainment. As outlined in Section 3.2 below, the use of performance-indicators and performance-based funding is consistent with goal-based metaphors for organizations and the rational approach to policy making: institutions are assessed based upon their attainment of goals and rewards are tied to institutional performance. In theory, subsequent organizational action can be guided in a desired direction. There are significant challenges to this model. Alternative descriptions of policy making that ameliorate the weaknesses of this approach are outlined in Sections 3.1.2 and 3.1.3.

3.1.2 Non-rational approaches to policy making

An alternative way to think about organizational policy making is as an ongoing process whereby a system's purpose is to maintain a dynamic balance (i.e., stability) rather than pursue goals. Order stems from the presence of a few guiding principles and form evolves to facilitate purpose (rather than to achieve goals) (Cutright, 1997).

Such a system would have three major features: autonomy, circularity and self-reference (Morgan, 1997). These characteristics allow the system to self-renew while maintaining its identity: each component must remain true to the overall structure and cannot engage in activities that significantly change the organization's identity without encountering (potentially corrective) feedback from the other components of the organization with which it has relationships. The appearance of chaos is a function of nonlinearity: behavior feeds back to modify patterns resulting in constant renewal and adaptation to maintain a living system's essential integrity (Wheatley, 1991).[1] Critical to this perspective is the idea that every system is closed (i.e., has an

[1] For example, rivers change to facilitate water's downhill movement—their form may vary, but the basic function (or the *attractor*) is constant. Multiple attractors help to determine the boundaries of systems and their patterns of general behavior. In addition to gravity, rivers are affected by attractors such as the composition of the soil, topography and weather patterns. All of these limit the forms that the river can take as it adapts and previous forms influence future forms (e.g., the flattening of the riverbed through erosion affects the future flow of water).

internal, self-referential pattern of organization) but is not isolated (i.e., is affected by other systems) (Morgan, 1997; Birnbaum, 1988). Capra (1983, 1996) asserts that each subsystem has two opposing tendencies: an integrative imperative that maintains harmony between subsystems and a self-assertive tendency that preserves a subsystem's autonomy. Together, these tendencies balance each other, giving the system substantial flexibility at lower levels of organization that ensures stability at higher levels.

The non-rational approach ends to focus on policy making as an ongoing activity which suggests that evaluation based upon *a priori* criteria is deficient.

3.1.2.1 Evaluating non-rational descriptions of policy making with metaphors

Organizational meaning (and therefore goals) in non-rational descriptions of policy making are developed through activity. This approach to organizational operation is expressed in process-based metaphors such as the organismic and the brain metaphor.

The *organismic metaphor* views organizations as akin to living organisms in that adaptation to the environment results in optimal organization, with survival as the imperative underlying activity (Peterson and Dill, 1997). The strength of this metaphor lies in its emphasis of environmental conditions and flexible responses to changing conditions (factors largely ignored in mechanical metaphors). The analogy between natural systems and socially constructed ones is, however, fairly weak. Social systems have an ability to consciously adapt their behaviors that organisms do not (e.g., choosing collaboration over competition to realize greater gains) while the unity of function that exists in organisms is not necessarily mirrored in the aggregate nature of organizations (Morgan, 1997; Brooke, 1991).

Organizational structures not only delineate how work will be accomplished but also how (and what) information will be processed. Thinking of organizations as *brains*

A Newtonian view of river formation and maturation as one of inevitable winding down. The quantum perspective sees this process as the system letting go of one form to re-emerge in a form better suited to the demands of the new, lower energy environment. At some point, energy may return to the system (e.g., through tectonic changes) and the system would undergo a jump in phase as it again adjusts to a new environment.

(i.e., as information-processing and decision making systems) has lead to the development of non-linear approaches to decision making. Cohen, March and Olsen's (1972) description of policy making as occurring an organized anarchy (or a policy garbage-can) is premised upon three streams (problems, solutions and political salability) mixing indiscriminately. Where all three streams coalesce, a policy window opens where a policy entrepreneur can act to advance a solution. Problems are recognized through changes in accepted indicators, focusing events, and normal feedback. The garbage-can model of organizations was a reaction to the focus of rational approaches to describing policy making on eliminating uncertainty in organizational decision making and suggested that organizations attempt to flow with uncertainty (Masuch and LaPotin, 1989; Padget, 1980; Moch and Pondy, 1977; March and Olsen, 1976b).

The cybernetic organization is another example of thinking about organizations an information processing (rather than goal achieving) systems (Morgan, 1997). Cybernetic organizations monitor their environments, relate that information to the operating norms of the system and, recognizing significant deviations, initiate corrective action in order to avoid undesirable states (Birnbaum, 1988). The result is a self-regulating organization that challenges the dominant view of organization as imposed by suggesting that organization is emergent. Management in cybernetic organizations focuses on setting reference points and core values and allowing organization to emerge from the process (often through experimentation and learning from failure). Effective organizations are able to question these reference points.

The strength of this metaphor is its recognition that organizations can self-regulate with the goal of avoiding undesirable states. Largely unaddressed is how power and control impede self-organization and monitoring. This weakness stems from the aggregate and conscious nature of social organizations as compared to the unity and reactionary nature of organic systems. Further, the cybernetic model requires self-evaluation and self-discipline uncommon in traditional organizations but central to learning organizations (cf. Senge, 1990; Watkins and Marsick, 1993).

3.1.2.2 Summary—As noted in the discussion of the organismic and brain metaphors for organizations outlined above, non-rational descriptions of policy making assume that institutional goals may be emergent and result from the processing of

information or the taking of action. In this way, non-rational descriptions to policy making do not support managing and evaluating institutions based upon the attainment of goals developed *a priori*. Process-based metaphors also explain the paradox of higher education as poorly managed and highly effective: loosely coupled organizations (where management control is weak) perform well because the operational components possess the flexibility necessary to adapt to a changing environment (Birnbaum, 1988; Baldridge et al., 1978; Weick, 1976). Loosely coupled systems also allow the organization to manage conflicting goals by creating relatively isolated solutions to problems. If organizational order emerges spontaneously and form changes to facilitate the pursuit of organizational purpose(s), then it is not necessary to manage organizations through summative evaluation (i.e., by measuring goal attainment): deviations from goals may signify organizational adaptation rather than ineffectiveness.

Section 3.1.3 Policy networks and policy communities

A third way to describe policy making is to explore the nature of the relationships between the various actors in the policy making process. This type of description incorporates the impact of multiple decision makers and structural factors on policy formulation and implementation. This approach also recognizes that political representation of social interests can occur in multiple ways. The Canadian electoral system is organized spatially (i.e., by geography) (Archer, Gibbins, Knopff and Pal, 1999). An alternative representational principle groups individuals by interest to achieve political outcomes. Examining the relationship of interest groups with the state offers relevant insight into policy formulation and implementation. Policy networks and policy communities are conceptual devices that can be used to interpret the interaction between the state and interest groups. This interaction occurs at the meso-political level, that is between the macro-political level (i.e. general descriptions of the systemic characteristics of a jurisdiction) and the micro-political level (e.g., the actions of a single political actor) (Pross, 1992). Section 3.1.3.1 outlines the concept of policy communities. Section 3.1.3.2 outlines the concept of policy networks. Section 3.1.3.3 discusses the implications of these concepts for the formulation of policy. Subsequently, Section 3.1.4 discusses policy formulation in Alberta.

3.1.3.1 Policy communities—Coleman and Skogstad (1990, p. 25) define a *policy community* "to include all actors or potential actors with a direct or indirect interest in a policy area or function who share a common 'policy focus', and who, with varying degrees of influence, shape policy outcomes over the long run." They go on to quote Pross's division of a policy community into the sub-government (i.e., government agencies, interest associations, and other organizations such as businesses) which normally participates in making policy and the attentive public (e.g., the media, academics and interest individuals) that does not regularly participate in policy making.

Policy communities have permeable and fuzzy boundaries (Archer et al., 1999). Participants will vary depending upon the issue and over time as the external world changes. As membership is informal, determining who is a member of a policy community can be problematic, although shared terminology and mutual recognition between members can be useful clues. The concept of policy communities does not engage the pattern of interaction between members despite the importance of this interaction to policy formulation and implementation. For this, we need to examine the concept of policy networks.

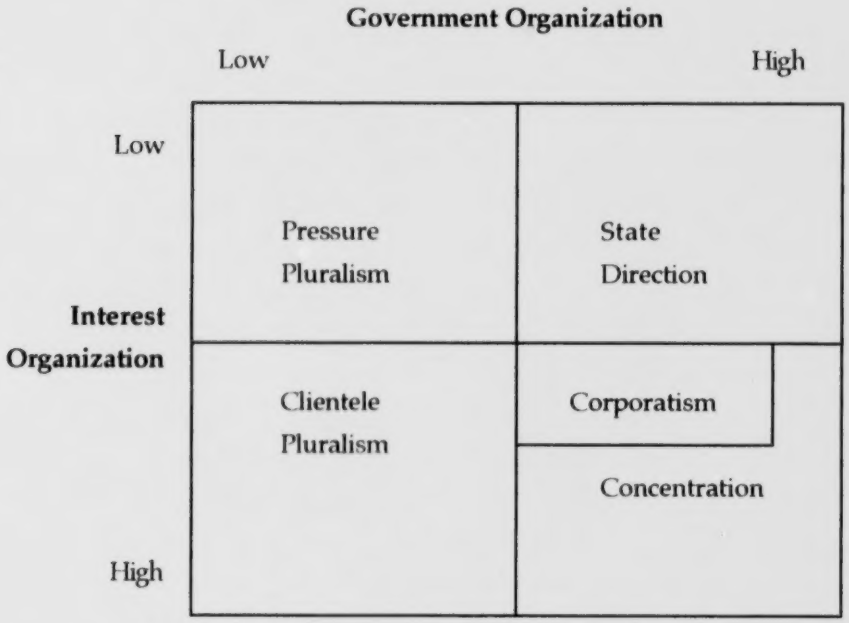
3.1.3.2 Policy networks—Understanding the pattern of interaction in a policy community can be achieved by examining the policy network. Coleman and Skogstad (1990) define a *policy network* as "the properties that characterize the relationships among the particular set of actors that forms around an issue of importance to the policy community" (p. 26). The network perspective

> is a decentralized concept of social organization and governance: society is no longer exclusively controlled by a central intelligence (e.g., the State); rather, controlling devices are dispersed and intelligence is distributed among a multiplicity of action (or "processing") units. The coordination of these action units is no longer the result of "central steering" or some kind of "prestabilized harmony" but emerges through the purposeful interactions of individual actors, who themselves are enabled for parallel action by exchanging information and other relevant resources (Kenis and Schneider, 1989, p. 26).

Understanding the relationship between actors stems from exploring structural properties of the subgovernment. These properties include "state autonomy and coordinating capacity, the ability of the state to concentrate its resources, and expertise in making decisions" (Coleman and Skogstad, 1990, p. 26). Lindquist

(1992) builds upon this approach and proposes that the structure of policy networks can be classified based upon the capacity of actors to formulate and implement policy. He also posits that this classification will be useful in predicting the patterns of policy making. Lindquist collapses questions about the relative organization, resources, ability to act, coordination, length of perspective etc., into a single dimension depicting the degree of organization of state and societal actors. This yields Figure 3.1. Although van Waarden (1992) uses a more complex set of criteria to arrive at a 13-class typology, Lindquist's 5-class typology adequately highlights the key differences between policy networks and their implications.

Figure 3.1 Different configurations of policy networks. Lindquist (1992)



Lindquist (1992; Pal, 1997) outlines each type of policy network:

3.1.3.2.1 Pressure pluralists networks contain a state agency with little ability to initiate policy and a weak set of interest groups. Interest groups advocate specific policies rather than participate in policy making. The absence of government

organization results in incremental policy making that is reactive and disjointed. Neither the state nor interest groups have much ability to instigate major initiatives.

3.1.3.2.2 Clientele pluralist networks are characterized by weak and dispersed state agencies that rely on interest groups for information and support. This allows interests to participate in policy making, especially when they can coordinate their positions, activities and goals. Interest groups frequently have a vested interest in the status quo because of their influence and privileges.

3.1.3.2.3 Corporatist networks contain a strong and autonomous state agency and a small number of large and powerful interest groups. Both the state and interest groups participate in policy formulation and implementation. Conflict may be common and resolved through negotiations facilitated by the state.

3.1.3.2.4 Concentration networks contain a strong and autonomous state agency and a single dominant interest group. Both are equal partners in long-term planning and policy making. This results in an orderly and closed policy making process.

3.1.3.2.5 State-directed networks have a well organized and autonomous state agency that dominates the policy sector and the various interest groups. A lack of will or ability to mobilize by the interest groups leaves the initiative to the state therefore the policy perspective tends to be long-term.

Lindquist's analysis suggests that the type of policy network that exists around an issue(s) will impact the way in which policy is formulated and implemented. Section 3.1.3.3 outlines the relationship between types of policy networks and the description (i.e., rational or non-rational) to policy making that is most appropriate.

3.1.3.3 Types of policy networks and their approach to policy making

Lindquist's analysis suggests that policy networks with strong and autonomous state agencies will tend to have a longer-term perspective and may (depending upon the degree of interest organization) be more government directed. Networks with weaker state agencies may be more reactive or client directed. This suggests that the type of policy network will influence the description of policy making that is most applicable (i.e., rational and imposed or non-rational and emergent). Corporatist,

concentration or state-direct policy networks may be better described by a goal-based, rational approach to policy making (i.e., use a bureaucratic or political metaphor to describe organizational policy making). This is because a strong state agency will be better placed to direct the formulation and implementation of policy and can be successful when it imposes policy. By contrast, pressure pluralist or client pluralist networks may be better described by a process-based, non-rational approach to policy making (i.e., use a organism or brain metaphor to describe organizational policy making). This is because a weak state agency will have difficulty directing policy formulation and implementation and therefore can be successful when it allows policy to emerge.

Section 3.1.4 Policy making in Alberta

A review of the literature uncover neither an analysis of Alberta's higher education policy community nor an analysis of one or more policy networks within the community. For the purpose of this dissertation, Alberta's policy network on the issue of implementing performance-based funding will be considered state directed. This description was chosen based upon Lindquist's characterization of the various types of policy networks. Specifically, *state-directed networks* have a well organized and autonomous state agency that dominates the policy sector and the various interest groups. A lack of will or ability to mobilize by the interest groups leaves the initiative to the state therefore the policy perspective tends to be long-term. Alberta's performance-based funding policy network exhibits the following characteristics that are consistent with a state-directed network.

At the time performance-based funding was introduced, Alberta's Department of Advanced Education and Career Development was a stable department that possessed substantial knowledge about performance-based funding and had a strong mandate to implement it. The other members of the sub-government (Boards of Governors, administrators, faculty and students) did not agree upon or coordinate their responses to this initiative and tended to focus on their own interests (AECD, 1995d, 1995e).[2] All student and faculty groups raised objections

[2] Boards of Governors are appointed by the Minister to oversee institutional performance and implement government-mandated policy. This suggests that they would be unlikely to effectively oppose the implementation of PBF if they objected to it. Similarly, administrators are appointed by Boards of Governors to carry out Board policy. Students were represented by local student associations as well as

(AECD, 1997i) but these did not appear to significantly affect the implementation of the mechanism. Similar concerns were raised during the 1998/99 review of performance-based funding (ACIFA 1998; CAFA, 1998a; ACTISEC, 1998) but again were disregarded (AECD, 1999a). This suggests a state-directed policy network where the state agency is strong and possesses substantial freedom to act regardless of the views of other members of the policy community. State-directed networks also tend to have weak and uncoordinated interest organizations that advocate policies but do not participate in policy making.

Clearly, conclusively positing that Alberta's performance-based funding policy network is state directed requires further and in-depth analysis. That is, however, beyond the scope of this dissertation and this study's working assumption is that the policy network is state directed. As noted in Section 3.1.3.3 above, state-directed policy networks tend to have a longer-term perspective and be more directive. Further, state-direct policy networks may be better described by a goal-based, rational approach to policy making (i.e., use a bureaucratic or political metaphor to describe organizational policy making). This is because a strong state agency will be better placed to direct the formulation and implementation of policy and therefore can be successful when it imposes policy. Because Alberta's government was (and is) clearly the lead agency in the introduction of performance-based funding, it seems reasonable to approach the research question by exploring what goals the state hoped to achieve through the implementation of this policy.

Section 3.1.5 Summary

This section has outlined several ways to describe organizational policy making. The concepts of policy communities and policy networks consider the impact of multiple actors and structural factors on policy formulation and implementation. This study assumes that Alberta's performance-based funding policy network is state directed.

---

two provincial groups. The Council of Alberta University Students (CAUS) was a loose association of university students' unions with no central office or staff. The Alberta Colleges and Technical Institutes Students' Executive Council (ACTISEC) was more organized than CAUS (by virtue of having a central office and staff) but its policy capacity is limited by the short-term nature of the appointments of its elected leadership. University faculty were represented by the Confederation of Alberta Faculty Associations (CAFA) which had a provincial office and staff. College and technical institute faculty were represented by the Alberta Colleges &

This suggests that studying government's actions and goals will be most fruitful because of the influence government has exerted over policy making.

3.2 Performance-based funding

This section explores the literature on performance-based funding in higher education. It is important to introduce performance-based and related concepts at this point in order to provide appropriate background for the discussion of the six hypotheses outlined in Sections 3.3 though 3.8. Section 3.2.1 discusses methods of resource allocation in higher education focusing on performance-based funding. Section 3.2.2 summarizes the literature on performance indicators. The impact of the New Public Management on the development and use of performance-based funding and performance indicators is outlined in Section 3.2.3. Section 3.2.4 summarizes performance-based funding as it relates to this thesis. Subsequently, Sections 3.3 through 3.8 explain the six hypotheses presented in Chapter Two.

3.2.1 Resource allocation and performance-based funding

There are several methods of resource allocation in higher education and frequently governments may employ a combination of methods to achieve specific objectives (Schmidtlein, 1999). Section 3.2.1.1 outlines traditional approaches to resource allocation such as incremental budgeting and formula-based budgeting. Section 3.2.1.2 summarizes the literature on the growing use of incentive funding. Section 3.2.1.3 explores the use of performance-based funding and Section 3.2.1.4 details arguments for and against the use of performance-based funding. The use of performance indicators to drive performance-based budgeting is explained in Section 3.2.2 below.

3.2.1.1 Incremental and formula budgeting—Institutional funding has traditionally been distributed on an incremental or formula basis (Massy, 1996a; Caruthers, Marks and Walker, 1994). *Incremental budgeting* changes basic operating and capital budgets annually (Layzell and Caruthers, 1995; Epper, 1994). These changes could include across-the-board changes (e.g., an annual increase of 2% to all budget line items) or more specific changes (e.g., changing, adding or deleting specific line items). This perpetuates resource distribution patterns and is criticized as irrational as well

---

Institutes Faculties Association (ACIFA) which operates in a similar manner to CAFA.

as encouraging budget maximizing behavior by bureaucrats (McKenzie, 1997; Osbourne and Gaebler, 1992). Massy (1996b; Bardwick, 1995) asserts that attributing responsibility for the financial health of units to central administrators politicizes allocations and drives the institutional desire to maximize revenue so as to avoid intra-institutional conflict.

A second traditional approach to resource allocation in formula-based budgeting. *Formula-based budgeting* mathematically ties allocations to specific criteria (e.g., $6200 per full-time equivalent student) and is designed to ensure funding adequacy, equity and stability (Elmore, Abelmann and Fuhrman, 1996; Caruthers et al., 1994). Critics believe formula funding creates inter-institutional competition for the basis of allocations (e.g., students, programs, physical plants) but provides no incentive for institutions to improve functioning (Albright and Gilleland, 1994; Sells, 1994; Bogue, 1982). Both incremental and formula funding delegate allocation decisions to institutional governors.

3.2.1.2 Incentive funding—One new method of resource allocation is called incentive funding. *Incentive funding* makes available additional funds contingent upon institutions engaging in specific activity (Epper, 1994). The structure and criterion of incentive funding allow governments to set goals but leaves the specifics of how to achieve those goals to the applicant (Holland and Berdahl, 1990; Carter, 1989). For example, a government may desire to create an additional 2000 spaces in a particular discipline. Institutions could then be asked to bid in a competitive manner upon the creation of some or all of these spaces according to a series of criteria. This approach to incentive funding is called *initiative* funding and indirectly links funding with performance because the allocation is made prior to the achievement of results (Serban, 1998). A second type of incentive funding is *categorical funding* where all institutions are eligible to access funds for specific purposes as long as they abide by the criteria. For example, a government may set aside funding for each institution (with the amount perhaps determined by enrollment) to use to upgrade its physical plant but may also attach conditions to it such as requiring institutions to match a certain portion of the money. Serban (1998) notes that US states using incentive funding typically apply it to only 1 to 6 per cent of institutional budgets.

3.2.1.3 Performance-based funding—This study focuses on another new method of resource allocation called performance-based funding (PBF). *Performance-based funding* links future funding to measurable outcomes thereby making funding contingent upon accomplishments (Serban, 1997, 1998; Clotfelter and Ladd, 1996; Layzell and Caruthers, 1995; Peterson, Erwin and Wilson, 1977). This approach is distinct from incentive funding because funding follows performance, rather than precedes it. Performance-based funding is consistent with the rational model of policy making in that it assumes that organizational purpose can be understood in terms of goal attainment. By devolving responsibility for goal achievement to institutions, administrators alter the attribution of financial responsibility that underlies incremental budgeting: institutions (and individual programs) are responsible for earning adequate funding by producing an acceptable performance. By tying funding to specific behaviors and outcomes, governments theoretically increase their influence over institutional behavior (Graham, Lyman, Trow and Fusco, 1995; Linke, 1992). Cibulka and Derlin (1998) suggest there is a growing trend towards using performance-based funding to link together other policies (e.g., curriculum frameworks, accreditation, funding, etc.) in a mutually reinforcing manner.

Not unlike incentive funding, performance funding tends to function on the edges of, or in addition to, base allocations so as not to damage funding adequacy, stability and equity (Bateman and Elliott, 1994; Coulter and Moore, 1987). An exception is South Carolina which has mandated that 100 per cent of its higher education budget be performance-based by 1999/2000 (Serban, 1998). Underlying the use of performance-based funding is the belief that institutions should and must be forced to re-examine basic spending (Epper, 1994) and that altering institutional spending patterns is desirable (Massy and Hulfactor, 1993; Brown and Wolf, 1993). This approach may not fully appreciate that funding patterns represent negotiated solutions that ensure multiple and often conflicting objectives are achieved (Caruthers et al., 1994; Carter, 1989).

3.2.1.4 Advantages and disadvantages of performance-based funding—The introduction of performance-based funding to higher education is frequently controversial. Burke (1999) summarizes the arguments for its implementation:

1. *Performance becomes a factor in allocating funding.* Government funding traditionally has focused on inputs and costs but ignored the quality or quantity of student learning provided by institutions. Providing some funding for results encourages institutions to increase efficiency and effectiveness.
2. *Planning and budgeting are linked.* Plans propose objectives and budgets support their achievement. Linking them together with performance-based funding increases the likelihood that plans will be reasonable and accomplished.
3. *Government objectives must be explicit.* The absence of stated government goals leaves higher education vulnerable to wild swings in objectives. Performance-based funding forces government to articulate goals and priorities for higher education and, by implication, limit their demands on higher education.
4. *External accountability and institutional improvement can be improved.* Performance-based funding combines decentralized authority with increased accountability for improved performance by concentrating on results rather than controlling by regulations. This allows instiutions operational flexibility but makes them ultimately accountable for their performance.
5. *Higher education becomes more client (and less provider) centered.* Performance-based funding can help transform public campuses from provider-centered enterprises driven by the aspirations of administrators and faculty into client-centered organizations focused on the needs of students, states and society.
6. *Undergraduate education becomes the focus of attention.* The objectives and indicators of performance-based funding center almost exclusively on undergraduate education. By tying funding to these outcomes, institutions will have to provide a quality undergraduate education.
7. *Good performance is rewarded and poor performance is penalized.* Self explanatory.
8. *Authority is decentralized without a loss of accountability.* Performance funding trades operational flexibility for increased attention to achieved results. It focuses on the objectives assigned to higher education and leaves the means of achieving these ends to the individual institutions.
9. *Focuses on institutional (rather than individual) performance.* By downplaying interest and rewards for the individual achievements of professors and professionals, performance-based funding stimulates interest in institutional achievement.

Despite Burke's positive assessment, there are a series of valid and significant arguments that are made against the implementation of performance-based funding and these arguments illustrate a number of unresolved issues:

1. *Complexity argument: The goals of higher education are too numerous and complex for assessment within reasonable costs.* Burke (1998) states that this argument centers upon the belief that, if a perfect assessment system cannot be designed, then no assessment should occur at all. He suggests that there is value in selecting some institutional goals that are important to society, students and institutions and assessing institutional performance. Schmidtlein (1999) counters that it is the link between resources and outcomes in an institution that is not amenable to observation and subsequent manipulation. Theories of causal relationships should provide the primary basis for selecting and analyzing outcome and performance data. The complexity inherent in organizational operation makes causal relationships obscure and, thus, decreases the effectiveness of performance-based funding.

2. *Quantification argument: Educational outcomes are not amenable to quantification.* Nedwek and Neal (1994; Emberley, 1996) argue that an input-output (i.e., mechanistic) model of education neither fully models the educational process nor captures all educational outcomes. Input-output analysis assumes that inputs (e.g., wood, iron, etc.) are uniform and passive and outputs (e.g., beams, tables, etc.) are standardized thus making possible comparisons to find the best (i.e., maximally effective and efficient) way to transform inputs into output by comparing different approaches (Frackman, 1987). If inputs and outputs are variable, then a common metric by which to measure is necessary to make valid comparisons between processes. For example, the appropriateness of sports cars and sedans for various purposes—with inputs (e.g., design) and outputs (e.g., performance) that vary substantially—can be compared based on some common metrics like fuel efficiency and speed-time measures. Education provides neither uniform inputs and outputs nor common metrics. Students and instructors (i.e., inputs) are neither passive nor uniform. Graduates (i.e., outputs) are similarly unique in the degree to which their knowledge, skills and attitudes can be developed and for what ends and manifest themselves over an extended period of time. The process (involving

introspection, synthesis and integration) is similarly variable according to students' experiences, aptitudes and motivation and is thus resistant to the imposition of a common metric. Combined with concerns about the use of data at high levels of aggregation, input-output analysis provides no direction for improving instruction and fails to develop a culture of institutional self-evaluation and improvement (Yorke, 1996; Banta and Borden, 1994; Mentkowski, Astin, Ewell and Moran, 1991). According to Deming, (1986; Graham et al., 1995), improving outcomes results from studying the production process rather than inspecting outcomes. This is broadly similar to the process improvement approach of Total Quality Management (Dooris and Teeters, 1994).

3. *Diversity argument: Comparing substantially different institutions make system-wide assessment untenable.* Recent research on selecting peer institutions in higher education (Lang, 1999) suggests that categorizing institutions (e.g., research intensive, undergraduate teaching focused, etc.) based on common criteria tends to mask important differences that are not captured by existing taxonomies. Burke (1998) argues that including consideration of structural differences and focusing on improvement (rather than absolute performance) mitigate this concern. Further, other types of funding (e.g., formula, incremental, incentive) are subject to similar concerns about system-wide applicability.

4. *Quality argument: Quality is too subjective to be amenable to measurement or assessment.* Burke argues that the goal of PBF is not to assess quality but to examine performance based upon important characteristics. This belies that the measurement of performance frequently entails embedding normative assumptions (such as the definition of quality used) into the structure of the indicators. Embedded assumptions are discussed in Section 3.7. The issue of quality is discussed in Section 3.4.

5. *Funding argument: Too little funding produces no changes while too much funding results in budget instability.* Substantial planning difficulties and intense inter-institutional competition result from large annual redistributions and arbitrating such redistributions would require values agreement and data that is not available within tolerable costs (Ashworth, 1994). Experience in the US

suggests limiting the value of incentive and performance funding focuses institutional attention while minimizing intrusiveness and unexpected outcomes (Ewell, 1990). Allocations must be large enough to garner credibility from legislators, the public and institutions (Banta, 1993). Burke (1998) notes that performance-based funding exists in addition to base allocations and, being uncommitted for other purposes or bound by campus political pressures, can be used to produce changes on campuses. In this way, small amounts of additional funding can bring about changes in institutional behavior.

6. *Political argument: Political instability prevents the continuity necessary for PBF to achieve results.* Schmidtlein (1999) suggests that policy objectives are typically ambiguous and unstable. This makes it difficult to develop PIs because it is unclear what performance(s) is important and expected. Further, frequent changes in goals (as a result of a changing political situation) impedes the functioning of the systems because the performance targets change. Burke (1999) suggests that designing programs based upon input from external stakeholders limits the potential for instability due to changes in government.

   Related to this argument is the assumption that decisions on complex issues, involving subtle trade-offs and controversial value judgments can be made at the highest levels of bureaucratic hierarchies if accurate and relevant data are made available. Schmidtlein (1999) argues that PBF tends to assume that the complexity of issues at the local level is capable of traveling up a hierarchical authority structure where a reasoned decision can be made. This assumes that (1) higher level officials will use detailed information collected at the local level, (2) higher level officials will make decisions based upon data about a situation (as opposed to other factors), and (3) decisions made by higher level officials will be implemented by lower-level officials.

   Schmidtlein also argues that using budgets to guide institutional behavior is "a rather blunt tool for intervening in the complex trade-offs involved in internal institutional decision making" (p. 7). Focusing on institutional accountability to government ignores the multiple accountability relationships in higher education (e.g., to disciplines, students, sponsors, peers, etc.). Further, focusing on accountability emphasizes higher education's role in social reproduction while

downplaying the importance of institutional autonomy to higher education's role of generating social criticism.

7. *Cost argument: Collecting data is too costly.* Burke suggests that existing data collection on campus could be reoriented or replaced in order to generate useful performance assessments.

8. *Incompatibility argument: External accountability and institutional improvement are inherently incompatible.* Burke (1998) suggests that these two goals both focus on effectiveness, which includes both quality and efficiency. Tying accountability reporting to funding creates *de facto* regulation and therefore increases control. This same dynamic is expected to increase effectiveness by pressuring institutions to improve operations. Combining these goals into one mechanism may not fully recognize the divergent paths leading to them. Effectiveness increases stem from critical self-evaluation and internal reform. Institutions seeking performance awards to alleviate financial pressures and curry government favor have no incentive to undertake critical self-evaluation because performance-based funding rewards them for producing high scores on outcomes measures, not insight into input or process deficiencies.

Serban's (1997) study of US performance-based funding suggests that campus actors emphasize institutional improvement while politicians emphasize external accountability and meeting state needs. The literature suggests performance measures may be better suited for demonstrating that institutions are carrying out their mandates than they are at improving practice (Graham et al., 1995; Middlehurst and Woodhouse, 1995; Jones, 1982). Systems satisfying external stakeholders (e.g., policy makers, taxpayers, etc.) focus on external interests, inspection and control. This requires a small number of institution-level and comparable PIs measuring progress towards goals (as measured by outcomes) over time at low cost (Banta, 1993; DesRosiers, 1993; Lang, 1993). Systems satisfying internal stakeholders (e.g., faculty, curriculum designers, etc.) focus on internal interests, evaluation and empowerment. This requires a comprehensive assessment of student learning and a more complex, diagnostic system that allows stakeholders to provide effective intervention at the

individual or classroom level (Delandshere and Petrosky, 1998; Blank, 1993; Hulme, 1988).

9. *Punishing-the-poor argument: Rewarding performance further disadvantages poor performers.* Burke suggests that PBF can be structured such that poor performers only lose funding of they fail to take steps to address evidence of poor performances.

10. *Organizational model argument: Higher education does not operate as a bureaucracy.* The use of PBF assumes a bureaucratic structure exists in institutions and fails to appreciate that knowledge and expertise resides at the bottom of the organizational pyramid. Attempting to circumvent substantive decision making occurring at a low level may result in resistance or other unintended consequences (Schmidtlein, 1999). Elton (1988) notes that (however temporarily) stable systems owe their stability to a balance between power and checks on power. Shifting the locus of power destabilizes the system: checks are too great where power was lost and too small where power was gained. Because those who gain power likely instigated the change, there is little incentive for them to plan corrective action. Changing the balance of power upsets the status quo and creates the perception of winners and losers (Albright and Gilleland, 1994). Individuals within the system respond to this change by creating new (unplanned) checks on power. For example, those who have lost power may also lose motivation therefore previous cooperation must now be coerced. The net effect is a decreasing ability to achieve outcomes throughout the system and declining cost-effectiveness.

The tendency of systems to initially resist change is one source of unintended consequences resulting from the introduction of performance-based funding. The tendency of systems to realign themselves based upon rewards and penalty is the second. Performance-based funding mechanisms tend to create pressures that may be detrimental to long-term goals (Ewell and Jones, 1994a). For example, institutions may focus on maximizing scores on PIs without changing practice and this may lead to declining credibility or quality—graduation rates can be increased simply by lowering the standard of performance required (Darling-Hammond, 1992).

These argument demonstrate the many issues regarding the use of performance-based funding remain unresolved. Proponents of performance-based funding frequently make the assumption that organizational activities (i.e., policy and decision making) are rational and goal based. This assumption justifies the use of performance indicators to assess goal attainment. Opponents of performance-based funding frequently argue that higher education is not amenable to assessment of goal attainment because institutions and systems operate in non-rational ways (e.g., as cybernetic organizations that seek to avoid undesirable states) and education is a process unsuited to quantification.

3.2.2 Performance indicators

Performance-based funding (PBF) uses data supplied by performance indicators (PIs) to allocate resources through a formula-driven performance-based funding mechanism (PBFM). Performance indicators measure institutional performance and therefore tend to be quantitative. Because direct evaluation may be intrusive and costly (as well as potentially affect the performance being evaluated), evaluation often occurs by proxy (Banta, 1993). In these cases, characteristics, events and (most commonly) outcomes that are believed correlated with the desired performance are used as performance indicators. Cave, Hanney, Henkel and Kogan (1997; Borden and Botrill, 1994) classify indicators as simple (neutral descriptions), general (data unrelated to goals), and performance (possessing a point of reference for comparison). Numeric performance indicators dominate government-introduced performance-based funding mechanisms and operationalize concepts such as quality by specifying measurable evidence of goal completion (Dochy, Segers and Wijnen, 1990; Jones, 1982). As evaluative tools, PIs require goal agreement (Richardson, 1994; Wagner, 1989). Because PIs measure institutional performance, institutions must be able to affect their PI scores (Sizer, Spee and Bormans, 1992). Kaufman (1988) identifies five organizational elements to which indicators can be applied:

1. *Inputs* are raw materials (e.g., resources, policies, communal characteristics).
2. *Processes* are the methods and procedures by which inputs become products, outputs and outcomes (e.g., teaching, training, learning).
3. *Products* are results that are fed back into the process to become outputs and outcomes (e.g., courses completed that eventually result in degrees awarded).

4. *Outputs* are the aggregated products of a system that are delivered to clients of the system (e.g., degrees awarded, papers published).
5. *Outcomes* are the effects of outputs in society (e.g., employment levels, life expectancy, democracy).

Kaufman (1988) views organizational success in terms of goal attainment and, therefore, *inputs* and *processes* are means by which to create *products, outputs* and *outcomes*. Performance-based funding mechanisms tend to focus on *products, outputs* and *outcomes*. This instrumental view of organizations is consistent with goal-based organizational metaphors outlined in Section 3.1.1.2 above. Performance indicators have several uses, including:

1. *Informing higher education planning*. Performance-indicator systems defined by institutional governors tend to be closely tied to planning (Ruppert, 1995). Tracking and projecting trends can provide governors with the warning and information necessary to plan effective interventions and improve efficiency in order to properly steward the government's investment (Nedwek and Neal, 1994). This is highly dependent on identifying patterns of change and leading indicators (Freeman, 1995).
2. *Improving higher education practice*. Determining relationships between inputs, process and outputs increases both educators' understanding of their work and the quality of educational products, outputs and outcomes (Sizer et al., 1992). The complexity of social systems may impede accurate causal modeling. Causal modeling may also allow policy makers to determine if policy incentives are properly aligned (Ewell and Jones, 1994a). Developing a common language is a necessary component of this approach (Nadeau, 1992).
3. *Monitoring the outcomes of higher education*. Reporting on the contribution of higher education to identifiable outcomes emphasizes the return on investment (Banta, Rudolph, Van Dyke and Fisher, 1996; Klein and Carter, 1989). This application of PIs informs consumer choices (Cave et al., 1997).

The introduction of performance indicators and performance-based funding has occurred in a variety of countries. Section 3.2.3 examines this broad change in governance and the pressures behind it.

3.2.3 Performance-based funding and the New Public Management

Performance-based funding is one of several policy instruments (see Section 3.7.1) that stem from the development of the New Public Management. The New Public Management (NPM) is part of government efforts to "roll back the state through some combination of privatization, contracting out, deregulation, expenditure reduction, program termination, downsizing the public service and measures to contain pressures on the public purse" (Aucoin, 1995, p. 113). Section 3.2.3.1 outlines the pressure economic globalization exerts on government. Section 3.2.3.2 discusses the resurgence in Canadian economic and social conservatism in the 1980s and 1990s. Section 3.2.3.3 explores how governments have responded to these pressures through the development of the evaluative state and performance-based funding.

3.2.3.1 The impact of economic globalization—The *globalization thesis* posits that maintaining economic stability requires governments to attract investment capital and that the new, transnational nature of capital pressures governments to reduce tax-funded public services so as to increase investors' returns (Castles, 1996). Teeple (1995) explains the KWS as a function of capitalists' need for social reform to maintain production. Capitalism's tendency to increase economic disparity is symptomatic of a fundamental conflict between democracy and capitalism: as a distributive system for social goods, democracy's distributive criteria is citizenship while capitalism's distributive criteria is the ability to pay. The KWS's large public sector mitigated the tendency of capitalism to increase economic disparity which, in turn, could lead to social unrest that might threaten the production process (Jessop, 1993). Transnational capital no longer requires KWS reforms because the interests of nation-states and corporations have been uncoupled: if the production process falters because of social unrest, capital relocates (Greider, 1997). The role of the state becomes to adjust domestic economies to meet the demands of economic globalization (Dominelli and Hoogvelt, 1996). McMurtry (1998) asserts that globalization is a values program that unquestioningly accepts market allocation of resources. The growth of economic globalization is one source of pressure on governments to reduce the size of the public sector. A second source of such pressure is the resurgence in Canadian economic and social conservatism.

3.2.3.2 Resurgence of Canadian economic and social conservatism—Aucoin (1995; Teeple, 1995) notes that western democracies saw a decline in public support for the interventionist welfare state beginning in the 1970s because of growing doubt about the state's ability to secure both economic growth and continuous improvements in public services. Jeffrey (1999) traces the resurgence in economic and social conservatism back to the UK fiscal crisis facing Margaret Thatcher in the mid-1970s (Pratt, 1998). This allowed her the opportunity to begin reducing the role of government in providing services. Ideologically, we could classify this shift as one from the Reform Liberalism that dominated the 1950s and 1960s back towards the Classical Liberalism of the 1920s and 1930s (although it is frequently called Neoconservatism)[3] The election of Ronald Reagan as president in the 1980s brought economic and social conservativism back into vogue in the United States. His policy of tax cuts appealed to both the middle class and capitalists while his support of conservative social policies was viewed favorable by evangelical Christians.

The resurgence of economic and social conservativism in Canada came later. This, in part, reflects Canadians' more favorable view of government. Jeffrey (1999; Harrison, 1995c) argues that the economic downturn of the mid-80s coupled with the scandals and constitutional failures of the Mulroney administration helped to make Neoconservatism more acceptable. Still, Canadian Neoconservatives (e.g., Ralph Klein, Mike Harris and Preston Manning) have promoted their economic agenda "as unpleasant but necessary medicine to ensure the common good and the well being of future generations" (Jeffrey, 1999, p. 50). This is substantially different from the high profile that tax-cuts have received in American and British neoconservative efforts. One result of this change is demand for the public sector to engage in greater public consultation, more transparent government and increased public accountability (Aucoin, 1995).

---

[3] *Ideologies* are collections of assumptions, values and expectations used to make sense of the world and guide beliefs about economic production and distribution (Dolbeare and Medcalf, 1988). *Liberalism* dominates Canadian politics and assumes that self-interest motivates individuals and rewards reflect merit (Gibbins and Youngman, 1996). *Classical Liberalism* emphasizes negative freedom (i.e., equality of right and freedom from constraint) while *Reform Liberalism* emphasizes positive freedom (i.e., equality of opportunity and freedom to act). The decline of Reform Liberalism has opened to the door for a resurgence of Classical Liberalism as well as the emergence of Neoliberalism, Neoconservativism and the New Right. Apple (1998) posits an alliance among Neoliberals, Neoconservatives, Classical Liberals and the New Right that advocates reducing the size of the state.

3.2.3.3 The evaluative state and the New Public Management—Increasing pressure on politicians to reduce the size of the public sector required a substantial change how government operated. The development of the welfare state had resulted in the growth of career public servants who played important roles in both administering the state and advising politicians on public policy. This, in turn, reduced the ability of politicians to direct how public policy was operationalized. *Public choice theory* posits that public servants are pursuing their own self interest, often at the expense of the interests of politicians and the public (Aucoin, 1990; Marshall and Peters, 1990). Civil servants' greater access to information and control over policy implementation provides them with the means to subvert the policy objectives of elected officials (McKenzie, 1997). Attempting to curtail the power of public servants resulted in the New Public Management.

The *New Public Management* entails cost cutting, transparent budget allocations, flattening hierarchies, and introducing market and quasi-market mechanisms (Middlehurst, 1997; Peters, 1992a; Scott and Gorringe, 1988). Belying the uniformity of the New Public Management is a tension between public choice and managerialist approaches to governance (McKenzie, 1997; Aucoin, 1990; Marshall and Peters, 1990). Public choice theory suggests that *centralizing* power in the hands of elected officials, developing supra-departmental authorities to *coordinate* activity and *controlling* policy implementation by delineating outcomes are all strategies that will curtail the autonomy of public servants (Peters, 1992b; Aucoin, 1990). This approach stands in stark contrast to the managerialist approach governments have also adopted in order to increase the efficiency and effectiveness of the delivery of public services. The managerialist approach frames bureaucratic structures and practices as key impediments to effective public functioning. *Decentralizing* power forces line managers to deal with problems (rather than manage processes and information flow) while *deregulation* and *delegation* of operations allows a close articulation between consumer needs and public services (Auditor General of Canada, 1993; Osbourne and Gaebler, 1992; Peters and Waterman, 1985).

The difference between these approaches (i.e., centralizing versus decentralizing; coordinating versus deregulating; controlling versus delegating) results in operational difficulties stemming from growing demands upon public servants. Pressure on

public servants to be publicly accountable and be clearly following the directions of elected politicians while attempting to resolve multiple and conflicting policy goals in the face of dwindling resources is bound to lead to conflict between public servants, the public and politicians. One way to resolve this is to devolve responsibility for goal attainment to individuals and institutions while governments retain control over resource allocation. This provides public servants and politicians with a cost-effective means to provide services and insulate themselves from responsibility should these services be criticized.

This approach to governance is called the evaluative state or contract government (Neave, 1988). Traditionally, governments set goals and then allocated resources. Evaluation was *a priori* in that it assumed goal attainment would occur because resources were provided (Elmore, 1979/80). This approach corresponds with incremental and formula-based budgeting. The evaluative state relies on *a posteriori* evaluation: resources are allocated based upon prior performance to encourage goal attainment (Dominelli and Hoogvelt, 1996). This approach is consistent with incentive and performance-based funding and recognizes that policymakers may be better able to control implementation through outcomes assessment.

The *evaluative state* entails creating a public sector based on market principles: quasi-independent agencies have their outputs measured by government and the value of outputs are tied to rewards. This market-like environment insulates government from direct responsibility for inequitable outcomes: outcomes stem from the actions of independent agencies and the impersonal forces of the market (Pannu, 1996). Public-choice advocates see performance-based funding as a means for politicians to direct policy and monitor bureaucrats' performance against specified outcomes (Ewell, 1990; Carter, 1989; Klein and Carter, 1988). At the same time, focusing on outcomes allows public servants the latitude they require to follow the managerialist prescription of devolving operational decisions to line managers (McKenzie, 1997; Bateman and Elliott, 1994). In this way, performance-based funding is a tool that meets the needs of both elected representatives and public servants.

Dudley (1998; Brown and Lauder, 1996) categorize educational policy in the New Public Management as neo-Fordist or post-Fordist. A *neo-Fordist* approach emphasizes labour-market flexibility as a means to reduce production costs and

increase competitiveness. Efficiency is sought through deregulation, managerialism and privatization. Higher education is focused on meeting the training demands of industry (Neave, 1980). The *post-Fordist* approach emphasizes developing a highly and multi-skilled workforce to stimulate and attract high wage jobs. The state's role is to develop human capital and guide growth through targeted investments (Newson, 1994). Performance-based funding is compatible with the managerialism of neo-Fordism and the outcomes-focus of post-Fordism.

3.2.4 Summary.

This section has summarized the literature on performance-based funding. Section 3.2.1 outlined how performance-based funding differs from other forms of resource allocation in that funds are provided based upon evaluation of performance, rather than in anticipation of it. Substantial discussion of the advantages and disadvantages of performance-based funding was also presented. Section 3.2.2 explored the literature on performance indicators. Section 3.2.3 explored the place of performance-based funding in governance and the advent of the New Public Management in response to the pressures of economic globalization and the resurgence of fiscal and social conservatism during the 1980s and 1990. When combined with the discussion of policy making presented in Section 3.1, this section provides the background information necessary to explore the literature related to the six hypotheses outlined in Chapter 2 regarding what goals Alberta's government hoped to achieve by implementing performance-based funding.

3.3 Increasing accountability with performance-based funding

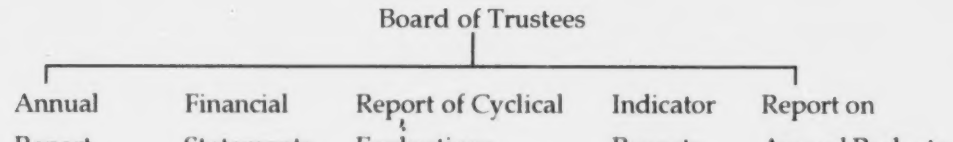
This section explores the literature on the use of performance-based funding to increase institutional accountability. Burke (1999; Layzell, 1998) states, increasing accountability is almost always an objective of implementing performance-based funding. Section 3.3.1 defines accountability and the closely related concept of regulation. Various models of accountability are outlined in Section 3.3.2. Section 3.3.3 explores the use of performance-based funding to increase institutional accountability to government. A theorized pattern of evidence that is expected to exist if Alberta's government is seeking to increase institutional accountability to government by introducing performance-based funding is outlined in Section 3.3.4.

3.3.1 Definitions of accountability and regulation

In order to determine if performance-based funding will increase accountability, it is necessary to clearly define what accountability is, particularly because accountability is frequently confused with regulation. *Accountability* is that which is exchanged for autonomy in an authority relationship (McDonnell, 1994; Neave, 1980). Being *accountable* entails providing a report of one's performance and being responsible for that performance (Wagner, 1989; Ewell, 1987). To be held accountable, one must be *causally responsible* (i.e., one's performance must result from an act committed or omitted) and one must be *expectationally responsible* (i.e., one's performance must be judged against a reasonable standard in light of one's mission and circumstance). Those to whom one is accountable must possess *authority* (i.e., have a valid interest in one's performance and the right to judge it), the origins of which may be contractual, statutory or moral. *Autonomy* is the freedom to act (Neave, 1982). Autonomy can be *substantive* (i.e., having the freedom to pursue academic matters without interference) or *procedural* (i.e., having the freedom to establish administrative, budgetary and operational policy and procedures).

Bowman and Snowdon (1997) state that institutions can use performance indicators to address calls for accountability and the lack of understanding about how higher education operates that underlie them. In this way, accountability can be thought of as a tool, rather than as a requirement (Frackman, 1987). At Queen's University in Ontario, performance indicators are used as part of an accountability framework (see Figure 3.2). This framework address the formal reporting requirements of government bureaucrats as well as the needs of politicians for information that is

Figure 3.2 Queen's Accountability Framework, Bowman and Snowdon (1997, p.9).



amenable to political uses. By embedding PIs in a framework, they serve a useful purpose but do not become the only means by which accountability is assessed.

Allocating resources based upon performance (to encourage goal attainment) confuses accountability with regulation (Kells, 1992). *Regulation* involves an outsider examining a performance and acting to maintain or change it. Regulation erodes autonomy rather than acting as a *quid pro quo* for it. Is it possible to increase accountability and regulation at the same time? The answer is yes. It is possible to change the degree of accountability exchanged for a degree of autonomy such that institutions receive a lesser degree of autonomy for the same or a greater degree of accountability. For example, an institution may submit three reports in exchange for complete autonomy. A change in government policy might see the degree of autonomy granted for filing these three reports reduced. This increases the relative accountability of institutions (i.e., increases the rate of exchange between accountability and autonomy) but the overall accountability of institutions is not increased. The difference between the original and the new degree of autonomy presents governments with an opportunity to do three things:

1. Government might allow institutions to "buy back" this difference in autonomy through an even greater effort to be accountable (i.e., increasing accountability). This would increase overall accountability and relative accountability.
2. Government could also use this difference to implement a regulatory mechanism. This would increase regulation as well as the relative accountability but not the overall accountability.
3. Government could implement some combination of the first two options, thereby increasing accountability and regulation at the same time. Section 3.3.3 grapples with the question of increasing accountability by implementing performance-based funding.

3.3.2 Models of accountability

Kells (1992) outlines three approaches to accountability:

1. *Goal achievement*—A focus on results entails comparing internally generated intentions with outputs and outcomes.

2. *Process and environment*—This approach focuses on the functioning of institutions as a result of the internal environment and processes.
3. *Compliance with guild, interinstitutional or government standards*—This approach is based upon comparing outcomes with externally set standards.

These approaches to accountability are operationalized in five ways:

1. *Performance indicators*—Use of factual data on input, process and output to signal deviant behavior when compared to benchmarks.
2. *Self-assessment*—Guided by inter-institutional, guild or other standards and tends to be goal-oriented.
3. *External peer assessment*—Most effective if preceded by self-assessment, and involving on-site visits guided by standards.
4. *Institutional review of results to create consequences*—Institutions create structures to focus attention on opportunities for improvement and employ incentives and sanctions. This includes the development of performance-based funding mechanisms.
5. *Publication of results*—The results, possibly with corrective action, are made public but rankings and comparisons are avoided.

3.3.3 Increasing accountability with performance-based funding

Demonstrating accountability entails providing a report on one's performance and being responsible for that report. Does the introduction of performance-based funding achieve this end? The answer is a qualified yes. The data collected to drive performance-based funding may be useful for accountability purposes. When performance indicator data is tied to funding, regulation and relative accountability increase but overall accountability does not. For example, an institution may receive full autonomy in return for filing three reports (e.g., financial statements, annual report, institutional business plan) per year. The introduction of performance-based funding suddenly shifts the power to set goals to government from the institution. This results in the loss of autonomy (i.e., an increase in regulation). The institutions, however, still must file three reports. While the introduction of performance-based funding has increased the degree of relative accountability (i.e., institutions need to be more accountable for less autonomy), it has not increased the overall degree of accountability. To increase overall accountability would require additional

accountability requirements be placed upon institutions and this is not a component of performance-based funding.

The inability of performance-based funding to increase the degree of overall accountability may not be recognized by government or government may be using performance-based funding to increase relative accountability (i.e., increasing the rate of exchange between accountability and autonomy) while addressing increasing overall accountability in other ways. Section 3.3.4 outlines the theorized pattern of evidence expected if government is trying to increase relative accountability through the implementation of performance-based funding.

3.3.4 Theorized pattern of evidence

This section outlines the pattern of evidence expected if Alberta's government implemented performance-based funding in order to increase the degree of relative accountability of institutions to government. If this is the case, then we would expect:

- The rationale for implementation to include discussion of how existing accountability mechanisms are inadequate.
- An increase in institutional reporting requirements for performances for which they are causally and expectationally responsible.
- No loss of institutional autonomy over major operational decisions although there may be an increase in relative accountability (i.e., an increase in the rate of exchange between accountability and autonomy).

It is important to keep in mind the distinction between accountability and regulation. Accountability entails providing a report on one's performance and being responsible for it. Regulation entails an outsider evaluating a performance and acting to maintain or change it.

3.4 Increasing institutional responsiveness through performance-based funding

A second reason why Alberta has implemented performance-based funding may be to increase institutional responsiveness to governmental goals and priorities. For example, the government of Colorado passed legislation in 1993 mandating performance-based funding (Burke and Serban, 1999). Funding was to be allocated

based upon institutional performance in five broad policy areas. Burke and Serban (1999, p. 28) state that "This program had the usual goal of using funding at the margin to produce desired changes in public colleges and university (sic)."

This section explores the literature on governments' use of performance-based funding to increase institutional responsiveness to governmental goals. Section 3.4.1 outlines how performance-based funding can be used to increase institutional responsiveness. Section 3.4.2 outlines the model of organizational functioning that underlies using performance-based funding to increase institutional responsiveness. A theorized pattern of evidence that is expected to exist if Alberta's government is seeking to increase institutional responsiveness to government goals by introducing performance-based funding is outlined in Section 3.4.3.

3.4.1 Using performance-based funding to increase institutional responsiveness

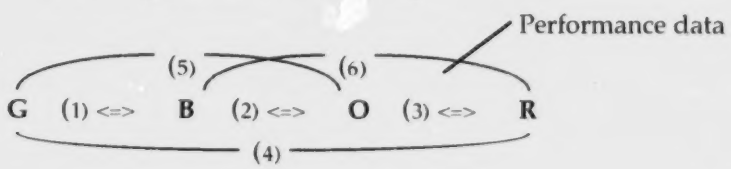
As discussed in Section 3.3 above, performance-based funding can be used to increase regulation (i.e., the evaluation of a performance by an outsider who then acts to maintain or change it). For example, a performance can be evaluated based upon data collected from several performance indicators. By tying an institution's performance to funding (e.g., rewarding institutions that with reduce administrative costs), performance-based funding acts to maintain or change an institution's subsequent performance. By tying funding to performance, institutions become more responsive to governmental goals and priorities that are embedded within specific performance indicators (further discussion of embedded assumption takes place in Section 3.7 below). Institutions could also be made more responsive to the needs of other stakeholders (e.g., rewarding student or employer satisfaction).

In order for performance-based funding to effectively regulate institutional behavior (and thereby increase institutional responsiveness), the connection between goals, actions, outcomes and rewards would need to be clear. Further, the rewards (or penalties) need to be sufficient in order to overcome institutional resistance (Elton, 1988). Finally, the performance under scrutiny needs to be within the control of the institution. Section 3.4.2 makes explicit the model of organizational functioning that underlies the use of performance-based funding to increase institutional responsiveness.

3.4.2 Model of organizational functioning

Using performance-based funding presupposes the model of institutional functioning outlined in Figure 3.3. Simply, this model assumes that goals cause behaviors which result in outcomes that are rewarded or penalized in order to alter future goals. Performance data is used to allocate rewards. The model operates based upon the four relationships between the components that are outlined in Sections 3.4.2.1 through 3.4.2.4. In practice, these relationships are often combined into two secondary relationships (see Sections 3.4.2.5 and 3.4.2.6). This model is consistent with the rational approach to describing policy making.

Figure 3.3 Model of organizational functioning



G: Organizational Goals
B: Organizational Behaviors
O: Organizational Outcomes
R: Rewards and Punishments

Primary relationships
1. Goals cause Behaviors *and* Behaviors are specified in terms of Goals.
2. Behaviors cause Outcomes *and* Outcomes can be related to Behaviors.
3. Outcomes cause Rewards *and* Rewards can be linked with Outcomes.
4. Rewards cause Goals *and* Goals can be specified in terms of Rewards.

Secondary relationships
5. Goals generate Outcomes *and* Outcomes can be related to Goals.
6. Behaviors generate Rewards *and* Rewards influence Behaviors

---

3.4.2.1 *Goals and Behaviors*—In order for performance-based funding to increase institutional responsiveness, it is necessary for organizational goals to cause organizational behaviors. The model of organizational functioning is designed to manipulate behavior, therefore, it requires that behavior be understandable (i.e., occur for a reason). Seeking to attain goals makes behavior understandable and therefore, possible to manipulate. Behavior may stem from norms (e.g., habit, tradition), but norms act as a proxy for goals. The model also requires that goals be

shared: the model is designed to manipulate behavior at an organizational (i.e., aggregate) level, therefore, it requires the existence of organizational goals (i.e., a common purpose). The absence of shared goals (whether they are developed consensually or imposed) makes it difficult to manipulate organizational outcomes because the impact of rewards is unpredictable. If it is not possible to predict the impact of rewards, the model's basic mechanism (i.e., that performance-data can be used to alter outcomes through the application of rewards to modify goals and, thus, behaviors) is invalidated.

In order for performance-based funding to increase institutional responsiveness, it is also necessary for behaviors to be specified in terms of goals. This is because the model requires that goals be consistently attained and consistent goal attainment requires that actors' behavior be directed at attaining those goals. If action is not directed at achieving organizational goals, it seems unlikely that the application of rewards based upon performance data can modify behaviors.

3.4.2.2 Behaviors and Outcomes—In order for performance-based funding to increase institutional responsiveness, it is necessary for organizational behavior to cause organizational outcomes. The model is designed to alter outcomes, therefore, it requires that outcomes result from behavior. While no organization exists in isolation, if organizational outcomes are generated (or deterministically influenced) by activities exogenous to the organization, the model's basic mechanism is compromised.

In order for performance-based funding to increase institutional responsiveness, it is also necessary that outcomes can be linked to (i.e., be understood as the product of) behaviors. The mechanism assumes that more desirable outcomes can be achieved through behavioral change motivated by the pursuit of rewarded outcomes. If it is unclear how outcomes are caused by behaviors, it is not possible for actors to effectively pursue goals and the mechanism is invalidated.

Understanding the link between outcomes and behaviors may also include understanding how products and outputs (see Section 3.2.2 above) stem from and contribute to behaviors and outcomes. Organizational outcomes result from the aggregated behavior of organizational actors. In order for actors to alter outcomes by

making intentional behavioral changes, they need to be cognizant of the interactional effects of organizational processes unless their work can be tightly controlled by managers.

3.4.2.3 Outcomes and Rewards—The model's mechanism requires that outcomes trigger a reward. A reward provides a reason to alter the organizational goals that cause behaviors and outcomes. If outcomes do not have consequences, the mechanism will not increase organizational responsiveness. In order for rewards to alter goals, behaviors and eventually outcomes, the mechanism requires rewards be linked to outcomes. If the relationship between a reward and an outcome is unclear, organizations will not be able to intentionally alter their goals and behaviors in order to achieve a more desirable outcome.

3.4.2.4 Rewards and Goals—In order for performance-based funding to increase institutional responsiveness, rewards must cause goals to be adopted or modified. Increasing institutional responsiveness is manifested in organizational outcomes and the model assumes outcomes stem from goal-seeking behavior. If for some reason, goals are not influenced by rewards (e.g., because the rewards are less significant than other factors), there will be no change in behavior and, consequently, no change in outcomes. The mechanism also requires that the goals be specified in terms of rewards. The model is designed to manipulate goals, therefore, it requires the reward structure be understood (i.e., clearly indicate which goals are desired). Seeking to obtain rewards makes goals understandable and, therefore, possible to manipulate.

3.4.2.5 Behavior and Rewards—While it is possible to directly reward organizational behavior, performance-based funding entails reporting on a *performance* (i.e., a set of outcomes) thus the relationship between behavior and rewards is mediated by outcomes. Despite this, the role of outcomes is often left out of discussion. Similarly, behavior is often discussed as occurring in response to rewards. As outlined above, behavior is driven by goals (which can be as simple as maximizing rewards) and therefore goals are a necessary part of this relationship.

3.4.2.6 Goals and Outcomes—Discussion of performance-based funding to increase institutional responsiveness often frames outcomes in terms of goal attainment. As outcomes do not occur by themselves (unless they are generated by activity

exogenous to the organization in which case they violate the mechanism), behavior is a necessary component of the relationship. Similarly, outcomes do not drive goals without rewards acting as an intermediary if we accept that self-interest drives goal formation.

3.4.3 Theorized pattern of evidence

This section outlines the pattern of evidence expected if Alberta's government implemented performance-based funding in order to increase institutional responsiveness. If this is the case, we would expect:

- The rationale for implementation to include discussion of how institutions are not adequately responsive to the needs of some group(s) (e.g., government, society, students, business, etc.).
- An evaluation of institutional performance linked to funding.
- Rewards (or penalties) significant enough to propel institutions to alter their goals and behaviors.
- An overall loss of institutional autonomy over major operational decisions.

3.5 Increasing institutional productivity with performance-based funding

A third possible reason why Alberta's government implemented performance-based funding was that it was trying to achieve higher levels of institutional productivity. Burke and Serban (1999) find evidence that performance-based funding in Arkansas, Minnesota, and Tennessee was implemented at least partly to improve institutional productivity. This section explores the literature on governments' use of performance-based funding to increase institutional productivity. Section 3.5.1 outlines the concept of productivity in higher education and discusses its relationship with the concept of quality. Improving productivity through the introduction of performance-based funding is explored in Section 3.5.2. A theorized pattern of evidence that is expected to exist if Alberta's government is seeking to increase institutional productivity by introducing performance-based funding is outlined in Section 3.5.3.

3.5.1 Productivity and quality in higher education

One way to define *productivity* is as the ratio of output to input. Using this definition, productivity is improved by increasing the benefits yielded by each unit of

cost (Massy, 1996c). In this way, productivity is very similar to efficiency which is itself increased by decreasing per-unit costs. Productivity and efficiency are dissimilar in that productivity also incorporates the notion of quality. That is to say, productivity increases only occur if per-unit costs decline *and* quality is maintained or increased. For example, increasing the number of students enrolled does not increase productivity if students learn less because of decreasing access to faculty, laboratories, and library resources. Because of the importance of quality to the notion of productivity, some definition of quality is required. Harvey and Green (1993) outline five main ways to conceptualize quality:

1. *Quality as exceptional*—The traditional view of quality sees it in terms of exclusivity and precludes measurement. Somewhat more useful is the notion of excellence as measured against agreed upon minimum (although high) standards. Quality can be improved by raising these standards.
2. *Quality as perfection*—Related to viewing *quality as excellence* is the idea that quality implies consistent conformity to specifications. Quality is improved by decreasing deviance from specifications during the production process.
3. *Quality as fitness for purpose*—Relevance is the key to *quality as fitness for purpose*. Fitness for purpose can be defined by the customer or based upon institutions' missions and is improved by increasing compliance with these expectations.
4. *Quality as value for money*—This approach to quality emphasizes the return on investment yielded by education. Competition between educational providers is the mechanism by which quality is improved. Market success is theoretically based upon demonstrating outcomes in a competitive environment.
5. *Quality as transformation*—This approach draws on the notion of education facilitating qualitative change. This is a fundamentally different approach to quality in that it recognizes that education is done to (rather than for) a student. The process is, therefore, unique in each case and this presents a significant challenge to most production-based models of quality and quality assurance. Value-added measurement requires the presupposition of what the changes will be such that base-line data can be established.

Horsbough (1998) argues that the transformative definition of quality is the only meaningful definition because it assesses institutions' ability to both enhance and empower students. Students are enhanced by learning skills and knowledge and they

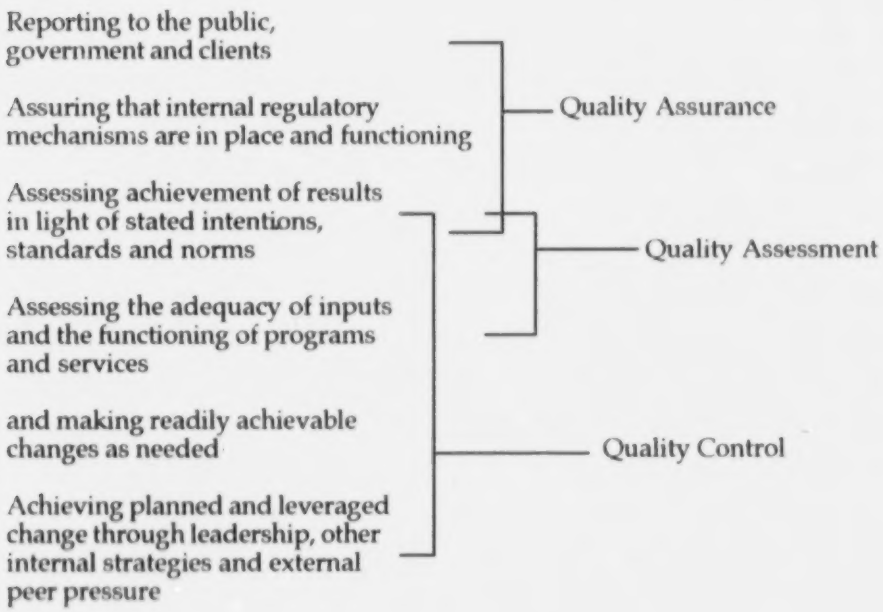
are empowered by developing an understanding of the explanatory framework being used (Harvey and Knight, 1996). The other conceptions of quality operationalize the metaconcept of transformative quality but focus on peripheral aspects and/or use indicators that are poor proxies for the actual performance to be measured. The use of numeric performance indicators results in performance-based funding mechanisms adopting a value-for-money definition of quality. This approach to quality is inadequate for assessing productivity gains because it allows instiutions to decrease their ability to enable and/or empower students in order to accommodate additional enrollments.

3.5.2 Improving productivity with performance-based funding

Using performance-based funding to increase productivity is a marked change in higher education practice (Cave et al., 1997; Caruthers et al., 1994; Ewell and Jones, 1994a, 1994b). In the 1970s and 1980s, institutions used internal assessment to improve quality (and *ergo* productivity). Performance-based funding attempts to place external pressure on institutions to improve productivity either by enhancing quality at a greater rate than cost increases or by maintaining quality while decreasing costs (Neal, 1995; Ruppert, 1995; Ewell, 1990). Ewell (1994a; Lucas, 1998; Neave, 1988) explains this change as driven by the traditional view of higher education as a public utility benefiting individuals giving away to a view of higher education as a strategic investment. In the latter case, society's greater stake requires regulation to ensure continuous productivity gains. Using performance-based funding to increase productivity entails three overlapping subprocesses outlined in Figure 3.4.

Specifically, *quality assurance* requires reporting to various publics about performance, ensuring that internal regulatory mechanisms are in place and functioning, and assessing achievement of results in light of intentions, standards and norms. In this way, quality assurance is very similar to accountability. *Quality assessment* combines assessing achievement of results in light of stated intentions, standards and norms as well as assessing the adequacy of inputs and the functioning of programs and services. This differs slightly from the one-way relationship of accountability in that it includes assessment of inputs. Finally, *quality control* includes the functions of quality assessment but adds making readily achievable changes as needed and achieving planned and leveraged change through leadership, other internal strategies and external peer pressure.

Figure 3.4 Improving productivity by quality assurance, assessment and control.


Reporting to the public, government and clients
Assuring that internal regulatory mechanisms are in place and functioning
Quality Assurance
Assessing achievement of results in light of stated intentions, standards and norms
Quality Assessment
Assessing the adequacy of inputs and the functioning of programs and services
and making readily achievable changes as needed
Quality Control
Achieving planned and leveraged change through leadership, other internal strategies and external peer pressure

(Kells, 1992, p. 18)

The literature suggests performance indicator–based systems may be better suited for demonstrating that institutions are carrying out their mandates (i.e., implementing quality assurance and assessment) than they are at improving practice (i.e., implementing quality control) (Graham et al., 1995; Middlehurst and Woodhouse, 1995; Jones, 1982). Systems improving quality assurance (i.e., accountability) focus on external interests, inspection and control. This requires a small number of institution-level and comparable PIs measuring progress towards goals (as measured by outcomes) over time at low cost (Banta, 1993; DesRosiers, 1993; Lang, 1993). Systems improving productivity (i.e., quality assessment and control) focus on internal interests, evaluation and empowerment. This requires a comprehensive assessment of student learning and a more complex, diagnostic system that allows stakeholders to provide effective intervention at the individual or classroom level (Delandshere and Petrosky, 1998; Blank, 1993; Hulme, 1988).

3.5.3 Theorized pattern of evidence

If performance-based funding has been introduced in increase institutional productivity, we would expect to see:

- The rationale for implementing performance-based funding includes discussion of how current productivity levels are too low and/or how existing mechanisms for increasing productivity are inadequate.
- A mechanism that rewards institutions for increasing productivity (either through improving quality or maintaining quality while decreasing per-unit costs), rather than simply efficiency. This would likely entail performance indicators that examined efficiency (i.e., cost per unit) and quality (i.e., ability of an institution to enable and empower students).

3.6 Increasing institutional grants through performance-based funding

A fourth reason Alberta may be implementing performance-based funding is that performance-based funding may be a politically feasible way to increase government transfers to higher education. Serban and Burke (1999) record evidence of this in Missouri and Ohio as well as the reverse (i.e., institutions pressuring for the implementation of performance-based funding in hopes of garnering large allocations) in Arkansas and Tennessee. This section explores the literature on governments' use of performance-based funding as a politically feasible way to increase government transfers to institutions. Section 3.6.1. reprises the discussion about the constraints facing government in funding higher education and the use of performance-based funding to increase government transfers to institutions. Section 3.6.2 discusses how institutional transfers could be increased through performance-based funding. A theorized pattern of evidence that is expected to exist if Alberta's government is seeking a politically feasible way to increase government transfers to institutions by introducing performance-based funding is outlined in Section 3.6.3.

3.6.1 Political constraints to increasing funding to higher education

As outlined above in Section 3.2.3, governments face political and economic pressure that limits their ability to increase public-sector spending. Specifically, economic globalization pressures governments to reduce tax-funded public services and the resurgence of social and economic conservatism in Canada means there is little electoral appetite for a platform advocating increased taxation and public spending.

Adopting a neo-Fordist approach to meeting labour market demands, however, is based upon the belief that business best knows its educational requirements and will (in conjunction with employees) foot the cost. A market mechanism in education is therefore used to guide programming decisions (Brown and Lauder, 1996). Neo-Fordism ignores that the freedom of movement for labour makes skills, from an employer's perspective, a collective good; there is no reason for an employer to pay for training if they may only lose an employee to another firm able to pay more because it has externalized the cost of training. Further, the neo-Fordist approach ignores the time-lag between training and entry into the labour market which makes education a risky investment and has the potential to create large skills gaps. This market dysfunction results in the creation of low-skill, temporary jobs where educational costs are externalized to employees who are unable to afford the training necessary for better jobs.

This situation creates pressure for public funding of higher education because it is an important factor in economic stability. Performance-based funding provides a solution to this dilemma. Funding is provided in a conditional manner that mimics the market. It offloads responsibility for outcomes onto instiutions (thereby insulating government from criticism should quality decline) and is consistent with the evaluative state (as outlined in Section 3.2.3.3 above).

3.6.2 Using performance-based funding to increase government transfers to institutions

Performance-based funding may provide a palatable solution to increasing funding to higher education. This has been the case in a number of US states (Ruppert, 1995) where legislators have framed the financial rewards attached to performance-based funding as an exchange. The precise nature of that exchange varies (e.g., increased accountability, productivity, quality, responsiveness) but the central feature is the *quid pro quo* relationship. In order for performance-based funding to be a politically feasible way to increase transfers to institutions, what it is exchanged for must have some political currency (i.e., it must be an issue with credibility and relevance) with the public in order to be worth the political risk it entails. The mechanism by which funding is awarded must be politically useful (i.e., have good optics) such that public support for the increase can be assured. Further, the cost to institutions of receiving the performance-based funding must be less than the amount received by institutions (otherwise, there has been no relative increase in funding).

3.6.3 Theorized pattern of evidence

This section outlines the pattern of evidence expected if Alberta's government implemented performance-based funding as a politically feasible way to increase government transfers to institutions. If this is the case, then we would expect:

- Public disapproval of increases in government grants to institutions through less complex means.
- A desire on the part of some element of government to increase funding to post-secondary institutions.
- Performance-based funding framed as an exchange relationship resulting in an increase in something that institutions provide to government or the public.
- The funding institutions receive to exceed the costs they incur.

3.7 Facilitating a policy agenda through performance-based funding

A fifth reason why Alberta's government may have introduced performance-based funding is to facilitate the introduction of a broader policy agenda. This section explores the literature on governments' use of performance-based funding to facilitate the introduction of a broader policy agenda. Section 3.7.1 explores how performance-based funding acts as a policy instrument. Section 3.7.2 explains how performance indicators are a conceptual technology that shape what issues we think about and how we think about them. Section 3.7.3 outlines the emergence of a higher education policy agenda that has been described as academic capitalism in Commonwealth countries and how it has been implemented in those jurisdictions. Section 3.7.4 outlines how performance-based funding facilitates the introduction of that agenda. A theorized pattern of evidence that is expected to exist if Alberta's government is seeking, in part, to implement academic capitalism by introducing performance-based funding is outlined in Section 3.7.5.

3.7.1 Performance-based funding as a policy instrument

If performance-based funding has been implemented in order to facilitate the introduction of a broader policy agenda, then performance-based funding must be a *policy instrument* (i.e., something that propels individuals to act when otherwise they could not or would not). Schneider and Ingram (1990) note seven reasons why policy goals are not automatically implemented, including a lack of: authority, direction,

incentives, capacity, agreement with policy, understanding of policy, or comprehension that a directive has been issued. The literature outlines four types of instruments (McDonnell, 1994; Pal, 1992a; Schneider and Ingram, 1990; McDonnell and Elmore, 1987):

1. *Authority-based* instruments grant permission, prohibit or require action and may include changing the distribution of authority and power in the system.
2. *Incentive-based* instruments use inducements, sanctions, charges or force to encourage action.
3. *Capacity-building* instruments invest in intellectual, material or human resources to enable specific activity to take place.
4. *Hortatory* instruments signal particular goals are of high priority and propel action by appealing to values through symbols and images.

An important distinction exists between incentive-based instruments (generally short-term and designed to attain specific objectives) and capacity-building instruments (generally long-term and designed to create the potential for gains). Linking instruments together may increase overall effectiveness. For example, authority-based instruments may mandate improved student satisfaction but this may have little impact on actual operations. Moral pressure can be brought through the inclusion of a hortatory component. Financial pressure can be brought through the use of incentives. Finally, the ability of institutions to comply can be increased with capacity-building instruments. The resulting hybrid policy instrument seems more likely to succeed than an authority-based instrument would alone.

McDonnell and Elmore (1987) posit that instrument choice varies with problem definition, resources and constraints. Problems are identified as a difference between an existing state and a desired state (Kingdon, 1984; Stone, 1988). Problem identification starts from agreed upon facts that lead to searching for causes and potential solutions (Parsons, 1995). Decision makers' preferences—often based on an ideological or political philosophy—impact the evaluation of causes and solutions. The choice of policy instrument is also influenced by six types of resources and constraints (McDonnell and Elmore, 1987):

1. *Institutional context*—The allocation of authority and agency structure may constrain choices if there is a significant departure from previous practice. Capacity building and changes in authority may be necessary.
2. *Governmental capacity*—The ability of the initiating level to implement a policy and the ability of the target to meet the policy's requirements impacts success. Mandates require large capacity while capacity-building requires little.
3. *Fiscal resources*—Organizational and fiscal slack are necessary for policy change. Cost constraints may select for hortatory or system-changing instruments.
4. *Political support and opposition*—The instrument preferences of other actors may constrain the choice of instrument. Inducements require the lowest level of political support while authority-based instruments threaten established interests and, therefore, require strong political support.
5. *Information*—Information about the political salability, implementability and technical requirements influences selection. The availability of this information varies. Inducements and hortatory instruments require the least information.
6. *Past policy choices*—Previous policies shape expectations and limit flexibility.

Performance-based funding blurs the boundaries between types of instruments by tying together incentive-based and hortatory instruments while also altering the distribution of authority. This combination creates a self-perpetuating and self-policing market-like arena in which inter-institutional competition takes place. This suggests that performance-based funding can act as a policy instrument (i.e., it uses financial inducements to pressure instiutions to pursue goals they otherwise would or could not). Excluding capacity-building instruments from performance-based funding reflects a commitment to minimize public expenditures, particularly when the return on this investment is uncertain, intangible, immeasurable and distant (McDonnell and Elmore, 1987). This is consistent with the agenda underlying the New Public Management outlined in Section 3.2.4 above.

3.7.2 Performance indicators and performance-based funding as conceptual technologies

A *conceptual technology* is a model or mechanism that shapes what issues people think about and how they think about those issues. The shaping occurs because the mechanism or model has embedded in it a series of normative (i.e., contestable) assumptions which may be difficult to detect. Failing to recognize these assumptions results in their adoption. Subsequent action then, tends to be consistent with these

assumptions. The effect of conceptual technologies is similar to (and may contribute to) the process of socialization but is also useful for imposing values agreement on a short-term situation.

For example, if we participate in the development or implementation of a mechanism that seeks to manipulate institutional performance by rewarding institutional goal attainment, we are (perhaps unconsciously) agreeing with the contestable assertions that (1) organizations can or do act to attain goals and (2) goal formation is affected by the rewards attached to them. Once we accept these assumptions, it is not an unreasonable to believe that, by altering institutional rewards (e.g., what they receive funding for), we can alter institutional goals and, ultimately, institutional outcomes. In this way, performance-based funding is a conceptual technology: once it is adopted, debate about the veracity of the assumptions that underlie it is curtailed and the focus shifts to debating how to implement it. If the assumptions underlying a particular policy agenda can be built into performance-based funding, its implementation can assist with the introduction of that agenda by shaping debate and rewarding activity consistent with it. By examining the assumptions that are embedded in performance-based funding mechanisms, it may be possible to gain insight into the broader policy agenda.

Performance indicators are also conceptual technologies in that their use creates the appearance of objectivity by embedding normative assumptions into the structure of the indicators. By embedding assumptions into the structure of the indicators, governments can include or highlight some values and goals while excluding others. Figure 3.5 outlines a common performance indicator as an example.

In this example, measuring the employment rate of graduates suggests that employment is an important outcome of education and, by extension, it is more important than non-measured outcomes (such as social or cultural outcomes). Extending this reasoning further, measuring the employment rate of graduates suggests that education that does not result in employment (or employment with the time period measured) is in some way deficient. Measuring the employment rate of graduates also implies that graduate employment rates are related to (or even caused by) the education provided by institutions. Extending this reasoning suggests that institutions should therefore act in some way to increase the employment rates

of graduates. Finally, by measuring the employment rate of graduates and comparing those among institutions, the PI suggests that specific institutions (and programs) are comparable (i.e., serve similar ends).

Figure 3.5 Example performance indicator.

Employment rate: Percentage of graduate-survey respondents employed with a specified period following program completion.

Points:	0	15	20	25	30
Benchmarks:	60%	70%	80%	90%	

Examining indicators from several countries (Cave et al., 1997) suggested the following typology of embedded assumptions:

1. *Value*—Performance indicators delineate what activity or outcome is valued through the inclusion or exclusion of related indicators. In the example above, the choice of indicator suggests that employment is a highly valued outcome. The absence of indicators related to the social or cultural outcomes suggest these are of lesser (or no) value.
2. *Judgment*—Performance indicators judge an activity or outcome based upon the value embedded in an indicator. In the example, educational programs that do not result in high levels of graduate employment are judged less valuable than educational programs that do result in high levels of graduate employment. This serves to reinforce the delineation of which activities or outcomes are valuable by tying an intrinsic or extrinsic reward to that value.
3. *Causality*—Performance indicators assign responsibility for an activity or outcome by embedding an assumption of causality. In the example, institutions are assigned responsibility for the employment rates of their graduates based upon the implicit assumption that education affects employment prospects. This ignores that there is a difference between causality (i.e., one event triggering a second such as post-secondary education causing higher levels of employment) and association (i.e., two events occurring together such as receiving a post-secondary education and obtaining a job where both may be

caused by some third variable such as socioeconomic status). It further ignores the complex causality of social phenomenon (Labaree, 1998).

4. *Goals*—Performance indicators assign institutions goals based upon the value embedded in the indicator. In the example, institutions are directed to increase their graduates' employment rate, particularly when performance on the indicator is tied to funding. The simplistic nature of performance indicators, however, may exclude consideration of contextual factors which would otherwise be considered in goal development. For example, an economic downturn may result in lower graduate employment rates in a particular program. There is little an institution can do about this in the short-term except close the program to increase the overall institutional rate of graduate employment. Maintaining enrollment during this economic downturn, however, may serve longer-term goals (such as developing human capital for the next economic boom) that one performance indicator cannot adequately address.
5. *Normalcy*—Performance indicators delineate a range of normal behaviors or outcomes because the mechanistic nature of performance-based funding is unable to cope with significant diversity in operating norms. In the example, graduate employment rates are measured at one point following graduation based upon the assumption that all programs result in similar career trajectories. This has the effect of homogenizing the system as outliers (such as fine arts programs with a longer period between graduation and employment) are systematically discriminated against.
6. *Comparability*—Performance indicators assume comparability (of mission, activities, outcomes and circumstances) between institutions by measuring them all on the same indicator. In the example, institutions that may be affected by the nature of the students or programs or differing economic or social contexts are all lumped together, doubtlessly advantaging some institutions and disadvantaging others.

This typology facilities analyzing performance indicators as well as performance-based funding mechanisms to expose what their normative assumptions are. If policy instruments are designed to advance a particular agenda, it seems reasonable that the assumptions that underlie the instruments will be similar to the assumptions that underlie the broader agenda. This may serve to illuminate what the broader policy agenda is.

Some examples of fruitful explorations of performance indicators as conceptual technologies include Polster and Newson's (1998) discussion of how performance indicators facilitate the entry of non-academic agendas into higher education. This is consistent with Barnett and Middlehurst's (1993; Dominelli and Hoogvelt, 1996) analysis of PIs in UK higher education where a fundamental reordering of academic work occurred as control of priorities and rewards moved outside of local control and upwards to administrators or government. By making visible the most and least effective work of academics (based upon cost-benefit analysis), PIs make it possible to differentially reward faculty and thereby pressuring institutions to adopt a particular set of goals, priorities or procedures. Cassin and Morgan (1992) note that the incorporation of managerial assumptions into higher education reorders and revalues priorities such that efficiency, effectiveness and flexibility as well as responsiveness to external funders become more important.

3.7.3 The emergence of academic capitalism in Commonwealth countries

If performance-based funding is being used to facilitate a broader policy agenda, it seems reasonable to ask what agenda it may be facilitating. The introduction of performance-based funding in New Zealand, Australia, the United Kingdom and the United States seems to coincide with the adoption of a policy agenda that Slaughter and Leslie (1997) characterize as academic capitalism.

Also called corporatism, *academic capitalism* is the alignment of the activities of higher education with the needs of the market place and entails institutions and faculty members engaging in market (i.e., for-profit activities) and market-like (i.e., competing for funding) behavior such as seeking grants, launching spin-off companies, building endowments, raising tuition and entering into business-education partnerships (Slaughter and Leslie, 1997, Buchbinder and Newson, 1988). Academic capitalism entails higher education being valued for what it does, rather than what it is (Slaughter, 1998; Massy, 1996b; Ewell, 1994a). For example, knowledge is valued economically, technoscience disciplines are valued above other fields, and research priorities are directed by the market (Newson, 1992, 1994; Buchbinder and Newson, 1990).

Slaughter and Leslie (1997) use resource dependence theory to explain the adoption of academic capitalism. *Resource dependence theory* says that organizations depend upon their environment for key resources and organizational behavior is a response to the actions of external agents who control organizational resources (Pfeffer and Salancik, 1978; Pfeffer, 1992). Substantial changes in resource availability destabilizes organizations and results in organizational adaptation to ensure survival. This dynamic explains how small policy changes can trigger such a significant operational changes despite the ability of institutions to ignore, divert or subvert policy directives. Resource dependence theory draws on a political metaphor for organizations: influence and control are allocated based upon the importance of actors to an organization's survival (Voegt and Volkwein, 1997). Organizations are not entirely passive, however, and possess the ability to influence both their environment and important sponsors (Pross, 1992).

Introducing academic capitalism in Commonwealth countries is facilitated by high levels of government involvement in higher education. This creates conditions whereby:

1. institutions are aware of the demands of government;
2. the resources controlled by government are critical to institutions;
3. institutions lack control over resources that are important to government;
4. institutions' actions and outputs are assessable by government; and
5. institutions can respond to demands and desire to survive by doing so.

These conditions allow Commonwealth governments to induce academic capitalism by making three changes to higher education funding (Slaughter and Leslie, 1997; Newson, 1994; Buchbinder and Newson, 1990):

1. decreasing public transfers of undesignated (i.e., block) funding;
2. increasing use by governments of designated funding (i.e., funding requiring of institutions specific performances); and
3. increasing reliance on external funders who (naturally) stipulate the use of their funds.

As suggested by resource dependence theory, changes in funding cause changes within organizations. Institutions respond to declining funding by enhancing revenues, implementing horizontal budget cuts, and, finally, implementing vertical budget cuts to eliminate programs and/or implementing strategies to increase productivity (Massy, 1996b). Each step is increasingly difficult to implement and creates a substantial incentive for organizations to develop other revenue streams regardless of their impact on institutional autonomy. Decreasing the amount of undesignated public funding forces institutions to seek new, generally non-governmental, sources of funding and, therefore, align their activities with the needs of the market. Further, increasing the use of funding designated for specific activities allows government and private funders to direct research, curricular and administrative decisions (Fürstenbach, 1993). Together these changes decrease institutional autonomy by encouraging a growing alignment between the needs of the market and the activities of post-secondary institutions.

Newson (1994) notes that the belief that institutions will survive the introduction of academic capitalism and be increasingly able to insulate core areas through market activity is difficult to substantiate. Reductions in government funding more than offset additional corporate funding and corporate funding comes with many strings attached. Institutions are not free agents entering into exchange relationships because they are resource poor. Partnerships with corporations requires increasing managerialism which in turn increases the influence of external groups over curriculum and research. This alters the knowledge creation purpose (towards profit) and process (towards consumption). Further, the profit pressure of corporate partnerships may actually impede progress because of a lack of attention to basic research (Woodhall, 1991).

The link between the introduction of performance-based funding and the adoption of a government agenda consistent with academic capitalism is strong and this suggests that exploring how performance-based funding facilitates the introduction of academic capitalism may be useful.

3.7.4 Facilitating the introduction of academic capitalism with performance-based funding

Performance-based funding can facilitate the introduction of academic capitalism (i.e., the alignment of higher education's activities with the needs of the marketplace) in a number of ways.

First, performance-based funding represents a loss of institutional autonomy because governments use it to set institutional goals and priorities and reward their attainment with additional funding. In this way, the ability of higher education to resist pressure to align their activities with corporations is weakened. As Newson (1994, p. 146) notes, performance-based funding is a form of documentary decision making that usurps the role of "orally contested decision making through academic fora such as senates, faculty councils and departments" and transfers goal-setting power to those who construct and operate documentary systems. This is consistent with using performance-based funding to increase institutional responsiveness to governmental goals as outlined in Section 3.5 above.

Second, the indicators selected to assess institutional performance can pressure institutions to engage in academic capitalism. Examining the labour market outcomes of education, the generation of external revenues, the number of patents filed, and the level of research sponsorship by industry are all indicators that explicitly reward institutions for aligning their activities with the needs of the marketplace. This decreases institutional control over its internal goal setting and facilitates the introduction of non-academic priorities into decision making (Woodhall, 1991).

Third, performance-based funding offloads responsibility for outcomes to institutions (i.e., institutions are measured on *their* performance) while ignoring the impact of changes in inputs (e.g., government funding). This serves to insulate government from responsibility for negative outcomes such as declining affordability and equity. This forces institutions to actively seek out solutions to funding problems, such as increasing the funding they receive from corporations.

3.7.5 Theorized pattern of evidence

This section outlines the pattern of evidence expected if Alberta's government implemented performance-based funding in order to facilitate the introduction of a broader policy agenda. As outlined above, the introduction of performance-based

funding is strongly associated with increasing government emphasis on academic capitalism, therefore this study will examine the use of performance-based funding to facilitate the introduction of academic capitalism. If this is the case, we would expect:

- The introduction of policies that pressure academics and institutions to increasingly engaged in market and market-like behavior (i.e., academic capitalism) by reducing block transfers, increasing use of designated funding and increasing the pressure to develop non-governmental sources of revenue.
- A performance-based funding mechanism that embeds assumptions in its structure and/or in its indicators that pressure institutions to align their activities with the needs of the marketplace.
- The offloading of responsibility for outcomes of higher education to individual institutions and an increasingly evaluative role for government.

3.8 Legitimating a policy agenda through performance-based funding

The sixth goal that Alberta's government may have been trying to achieve by introducing performance-based funding was legitimate the introduction of a broader policy agenda. This section explores the literature on governments' use of performance-based funding to legitimate a broader policy agenda. Section 3.8.1 discusses how performance-based funding can be used to legitimate the introduction of a policy agenda. The theorized pattern of evidence that is expected to exist if Alberta's government was seeking, in part, to legitimate academic capitalism by introducing performance-based funding is outlined in Section 3.8.2.

3.8.1 Using performance-based funding to legitimate the introduction of a policy agenda

As noted in Section 3.7 above, there is a strong correlation between the introduction of performance-based funding in higher education and the adoption of policies that encourage academic capitalism. One reason for this correlation may be that performance-based funding legitimates the introduction of academic capitalism. There are several ways performance-based funding can legitimate the introduction of academic capitalism.

First, performance-based funding may create evidence that the substantial changes to higher education that academic capitalism entails are positive. By choosing which

measures to include and exclude, it is possible for governments to shape the picture of higher education that emerges from evaluation. Further, by focusing on quantitative measures, governments exclude a range of qualitative indicators that may signal negative outcomes that result from the introduction of academic capitalism. The use of performance-based funding and performance indicators to shape discussion of an issue is outlined in Section 3.7 above.

Second, performance-based funding is based upon an exchange (i.e., funding is exchanged in return for specific outcomes) that is consistent with the market-like approach of academic capitalism. When governments adopt performance-based funding as policy, they are endorsing thinking about higher education as commodity. Academic capitalism encourages market exchanges whereby institutions and academics are encouraged to supply products (i.e., research) and services (i.e., labour market training) to corporations and individuals. Performance-based funding is a way government can approve of this relationship between higher education and corporations without making a clear policy statement.

3.8.2 Theorized pattern of evidence

This section outlines the pattern of evidence expected if Alberta's government implemented performance-based funding in order to legitimate the introduction of a broader policy agenda. As outlined above, the introduction of performance-based funding is strongly associated with the growth of academic capitalism, therefore this study will examine the use of performance-based funding to legitimate the introduction of academic capitalism. If this is the case, we would expect:

- A performance-based funding system that creates evidence that growing academic capitalism is having a positive impact through selecting performance indicators that institutions have historically done well on and setting benchmarks that many (if not all) institutions can have success with.
- Goals operationalized in ways that exclude politically difficult issues from discussion.
- An explicit exchange relationship between government and institutions whereby institutions earn funding in exchange for delivering particular products.
- The offloading of responsibility for outcomes to individual institutions.

3.9 Summary

This section summarizes the literature review by outlining the pattern of evidence expected to appear in the case study if each of the hypotheses outlined in Chapter Two are valid. The research question is:

1. What goal(s) did the provincial government hope to achieve by introducing performance-based funding to Alberta's higher education system?

The six hypotheses (i.e., conjectures about the characteristics, causes or effects of the situation, issue or phenomenon under study) " that this study will examine are:

1. Performance-based funding has been introduced because it will increase institutional accountability to government.
2. Performance-based funding has been introduced because it will increase institutional responsiveness to governmental goals.
3. Performance-based funding has been introduced because it will increase institutional productivity.
4. Performance-based funding has been introduced because it is a politically feasible means of increasing government transfers to institutions.
5. Performance-based funding has been introduced because it facilitates the introduction of a broader policy agenda.
6. Performance-based funding has been introduced because it legitimates the introduction of a broader policy agenda.

If Alberta's government implemented performance-based funding in order to increase institutional accountability to government, we would expect:

- The rationale for implementation to include discussion of how existing accountability mechanisms are inadequate.
- An increase in institutional reporting requirements for performances for which they are causally and expectationally responsible.
- No overall loss of institutional autonomy over major operational decisions although there may be an increase in relative accountability (i.e., an increase in the rate of exchange between accountability and autonomy).

If Alberta's government implemented performance-based funding in order to increase institutional responsiveness to governmental goals, we would expect:

- The rationale for implementation to include discussion of how institutions are not adequately responsive to the needs of some group(s) (e.g., government, society, students, business, etc.).
- An evaluation of institutional performance linked to funding.
- Rewards (or penalties) significant enough to propel institutions to alter their goals and behaviors.
- An overall loss of institutional autonomy over major operational decisions.

If performance-based funding has been introduced to increase institutional productivity, we would expect:

- The rationale for implementing performance-based funding to include discussion of how current productivity levels are too low and/or how existing mechanisms for increasing productivity are inadequate.
- A mechanism that rewards institutions for increasing productivity (either through improving quality or maintaining quality while decreasing per-unit costs), rather than simply efficiency. This would likely entail performance indicators that examined efficiency (i.e., cost per unit) and quality (i.e., ability of an institution to enable and empower students).

If Alberta's government implemented performance-based funding as a politically feasible way to increase government transfers to institutions, we would expect:

- Public disapproval of increases in government grants to institutions through less complex means.
- A desire on the part of some element of government to increase funding to post-secondary institutions.
- Performance-based funding framed as an exchange relationship resulting in an increase in something that institutions provide to government or the public.
- The funding institutions receive to exceed the costs they incur.

If Alberta's government implemented performance-based funding in order to facilitate the introduction of a broader policy agenda (that is expected to be one of increasing academic capitalism), we would expect:

- The introduction of policies that pressure academics and institutions to increasingly engaged in market and market-like behavior (i.e., academic capitalism) by reducing block transfers, increasing use of designated funding and increasing the pressure to develop non-governmental sources of revenue.
- A performance-based funding mechanism that embeds assumptions in its structure and/or in its indicators that pressure institutions to align their activities with the needs of the marketplace.
- The offloading of responsibility for outcomes of higher education to individual institutions and an increasingly evaluative role for government.

If Alberta's government implemented performance-based funding in order to legitimate the introduction of a broader policy agenda (expected to be increasing academic capitalism), we would expect:

- A performance-based funding system that creates evidence that growing academic capitalism is having a positive impact through selecting performance indicators that institutions have historically done well on and setting benchmarks that many (if not all) institutions can have success with.
- Goals operationalized in ways that exclude politically difficult issues from discussion.
- An explicit exchange relationship between government and institutions whereby institutions earn funding in exchange for delivering particular products.
- The offloading of responsibility for outcomes to individual institutions.

Chapter Four presents a case study of Alberta's implementation of performance-based funding in its higher education system. Chapter Five examines the evidence presented in the case for each of the hypotheses and determines what goal(s) Alberta's government was hoping to achieve by implementing of performance-based funding in Alberta's higher education system.

CHAPTER FOUR

Case Study

This chapter presents a case study of the implementation of performance-based funding in Alberta. The evidence presented in this case will be analyzed in Chapter Five to see how it supports each of the six hypotheses outlined in Chapter Two about the goal(s) Alberta's government was trying to achieve by implementing performance-based funding. The case study is presented in five parts. Section 4.1 presents Alberta's political history from 1905 to 1992. Section 4.2 outlines the changes the post-1992 reforms to Alberta's public sector. Alberta's higher education policy since 1989 is summarized in Section 4.3. Section 4.4 explains the development and implementation of an accountability reporting framework and a performance-based funding mechanism in Alberta's higher education system. Finally, Section 4.5 summarizes the key themes that emerged in the case study.

4.1 Alberta's political history

This section outlines Alberta's political history from 1905 to the selection of Ralph Klein as premier in 1992. This provides necessary context for the case study. Section 4.1.1 provides a summary of Alberta's long tradition of one-party governance. Section 4.1.2 summarizes the emergent themes and strategies for electoral success. Section 4.3 outlines the changes Ralph Klein has implemented in Alberta's public sector.

4.1.1 Alberta's political history

Alberta was incorporated as one of Canada's (now) 10 provinces and 3 territories in 1905. In 1996, Alberta had a population of 2.8 million of which approximately 1.7 million were equally divided between the two major urban centers (Edmonton in the north and Calgary in the south) (Statistics Canada, 1999a, 1999b). Mansell (1997) and Dyck (1996) note that half of Albertans in the early 1970s were immigrants in search of economic opportunities. This largely self-selected population embraces individualism, risk-taking, self-reliance and market forces. The boom and bust nature of agriculture and the resource extraction industries(e.g., oil and gas, forestry, etc.) reinforces this attitude. Alberta also has a highly educated workforce with the

lowest level of unionization in Canada (Government of Alberta, 1992). Harrison and Laxer (1995) assert that Alberta's economic instability created a series of crises that resulted a quasi-nationalist sentiment in Alberta and this xenophobic tradition explains the virtual absence of organized opposition parties in Alberta.

Like many Canadian provinces, Alberta has a history of long-serving governments (Archer, 1992). Alberta's Liberal Party formed Alberta's government from 1905 through to 1922 (Government of Alberta, 1983). Premier Alexander Rutherford continued the pre-incorporation rhetoric about the importance of non-partisanship in government. Rutherford's resignation in 1910 over a railway scandal saw Arthur Sifton become premier. Sifton was previously chief justice and brought with him a veneer of impartiality. Pal (1992b, p. 9) notes that the railway

> ". . . crisis had, however, subtly changed the nature of political discourse in the province. It reinforced Albertan suspicion of monopolistic business interests, banks and eastern political institutions. It also reinforced, in Sifton's own person, a provincial preference for leaders and governments somehow above the fray."

The 1921 election saw the United Farmers of Alberta (UFA) form the government although they had no provincial party or platform. The UFA opposed "partyism" but the UFA was unable to resist institutional pressure to conform to the party system. The UFA lost the 1935 election to the Social Credit Party (Government of Alberta, 1983). Although Social Credit premier William Aberhart did not run in the 1935 election, he was the movement's founder. Aberhart was a fundamentalist Christian who used his weekly radio show to disseminate the theory of social credit (i.e., distributing a monthly dividend to all citizens to increase purchasing power) beginning in 1932 (Pal, 1992b). Aberhart also used the rhetoric of non-partisanship in his approach to government. By 1943, the grassroots approach of the Social Credit party had given way to traditional cabinet control. Ernest Manning became premier in 1943 , a position he held until 1967. Manning diffused Aberhart's rhetoric about capitalism being the enemy of Alberta and quickly built alliances with American business interests.

The Progressive Conservative (PC) Party (led by Peter Lougheed) unseated the Social Credit government in 1971. Lougheed's long-term success stemmed from provincial prosperity resulting in substantial increases in public services and low

levels of taxation. He also benefited from ongoing conflict with the federal government which allowed him to cast himself as the defender of Alberta's interests. Lougheed's political success meant that most decisions were made by cabinet and caucus. Lougheed's government (1971–1985) was economically interventionist in order to diversify Alberta's economy (Harrison, 1995a). His successor, Don Getty, did not inherit the economic and political advantages of his predecessor because of the federal election of the Mulroney Conservatives and an ongoing recession.

By 1990, the PC government of Don Getty was experiencing significant erosion in its support. Archer's (1992) analysis suggests that, like many Canadians, Albertans are subject to *partisan instability* (i.e., a lack of long-term identification with a particular party) and this means that long-serving governments can quickly find themselves out of office. One destination of PC supporters was the (federal) Reform Party which, had it chosen in 1990 to run provincially, had an excellent chance to form the government (Mansell, 1997). The Reform Party's agenda included support for an elected Senate, a bottom-up and transparent decision-making process, and a 10–15% cut in program spending (Harrison, 1995c). Also of concern for the PC Party was that up to 50% of Albertans were not voting and a party able to tap into issues relevant to non-voters could secure a substantial victory in the next provincial election (Archer, 1992). The selection of Ralph Klein as PC leader in late 1992 signaled a substantial shift in policy that is detailed in Section 4.2 below.

4.1.2 Emergent themes in Alberta politics

Surveying Alberta's political history uncovers several commonalties. First, Alberta governments consistently use the rhetoric of nonpartisanship (i.e., providing government uninfluenced by personal or party interests and in the best interest of all Albertans). This suggests a preference among Alberta voters for governments that are competent and even-handed. A second feature in Alberta politics is the regular development of grassroots parties that come to power and, subsequently, conform to the internal logic of the parliamentary system. As Pal (1992b, p. 18) notes:

> The spectacular victories of the UFA in 1921 and the Social Credit in 1935 had been supported by the twin pillars of extensive constituency based organization and the appearance or veneer of being disdainful of routine political competition.

Third, Alberta governments promote a *laissez faire* approach to governance but have been significantly interventionist in the economy (Tupper, Pratt and Urquhart, 1992). In part, this is because Alberta's reliance on resource extraction makes the province especially and chronically economically unstable. Economic instability is a political liability, therefore governments are motivated to mitigate the boom and bust cycles.

These commonalties are part of the political culture of Alberta and delineate, to some degree, the type of policies and activities that are acceptable to Albertans. This background—and particularly the potential threat posed to the PC party by the Reform Party developing a provincial wing—constrained the approach Ralph Klein could take when he became leader of the ailing Tory party in 1992. His approach is outlined in Section 4.2 below.

4.2 The Klein revolution and public sector reform

The PC party engineered its re-election in 1993 by adopting a platform based upon fiscal conservatism. Implementing this new platform resulted in substantial changes to the public sector consistent with the New Public Management. Section 4.2.1 outlines the Klein government's strategy of focusing attention on Alberta's debt and deficit to win the 1993 election. Section 4.2.2 discusses the causes of Alberta's growing debt and deficit and the factors that contributed to dealing with it by reducing public expenditures. The consequent restructuring of Alberta's public sector is described in Section 4.2.3. Section 4.2.4 summarizes the Klein revolution and its implications for Alberta's public sector. Subsequently, Section 4.3 discusses Alberta's higher education policy.

4.2.1 Reinventing the Conservative Party

Upon his selection as party leader in 1992, Ralph Klein began preparing for the 1993 election. Mansell (1997) notes that the Tory party had little public support at the end of Getty's tenure as premier. Klein's election strategy was to focus attention upon Alberta's growing deficit and debt and present a platform to address it. The basis of this platform was outlined in an October 1992 letter from Ralph Klein to the Canadian Manufacturer's Association (Lisac, 1995). The policy changes Klein outlined included: reducing the number and size of government departments and decreasing regulation; privatizing government services, cutting spending and increasing productivity ahead of new taxes; maintaining low taxes as a competitive

advantage; appointing an independent commission to review Alberta's finances; and linking education to the needs of employers (p. 65).

This approach was consistent with the wishes of Albertans. Mansell (1997), for example, notes a November 1990 poll where 54% of respondents felt the government should reduce its deficit through spending cuts while only 17% supported increasing taxes. By focusing on the magnitude of Alberta's deficit and debt and presenting a clear plan to deal with it, the PC government rebuilt its electoral support and was re-elected in 1993 despite promising a substantial reduction in government services (Kneebone, 1997). This political rebirth is impressive given that the opposition Liberal party had, until then, been successfully criticizing the government for its $2.3 billion deficit and $11 billion debt (a change from $12.6 billion in assets in 1985/86) (Mansell, 1997; Stewart, 1995). Focusing on balancing the budget through spending reductions and the introduction of market mechanisms in the public sector was in keeping with the agenda of the federal Reform Party.

This approach also tapped into the political culture of Alberta: the government's focus was clearly nonpartisan (i.e., attacking management practices that had led to the debt and deficit rather than attacking its opponents) and its approach to developing Alberta's new economic strategy had been highly consultative. Further, its solutions to reducing the deficit and debt (i.e., reducing government spending) to maintain "the Alberta Advantage" appealed to both fiscally conservative voters (who desire lower taxes to increase profits) and voters who are social conservatives (who desire lower spending by government on objectionable social programs). Interpreting Klein's focus on deficit elimination and debt reduction as a political compromise differs substantially from the prevailing belief that extreme spending cuts were a necessity. Analysis of Alberta's finances presented in Section 4.2.2, however, suggests spending cuts were a choice. This supports the assertion that reducing public spending was a political compromise, rather than a necessity.

4.2.2 Reducing public expenditures

Examining Alberta's economic situation in 1993 supports the assertion that the Klein government was attempting to find common political ground with its spending cuts, rather than responding to an economic imperative. Section 4.2.2.1 outlines Alberta's economic situation in 1993. The decision to cut public-sector spending to maintain

"the Alberta Advantage" is examined in section 4.2.2.2. Section 4.2.2.3 examines how the Klein government legitimated it decision to reduce public-sector spending.

4.2.2.1 Alberta's economic position in 1993—Following election in 1993, Alberta's government faced a substantial deficit and growing debt—the legacy of a decade of upheaval in oil and grain prices—and set about attempting to reduce government expenditures (Mansell, 1997). Positing that spiraling public-sector spending was the prime cause of both the debt and deficit is inaccurate, according to Taft (1997). Overall government spending had been declining since 1986.

> . . . (former Premier Don) Getty's government had kept this decline fairly quiet, still wanting Albertans to believe they were getting 'the best' from their province, an expectation strongly engendered during the Lougheed years. As a result, the public was still under the misconception that Alberta spent far more than other provinces.
>
> The public belief that programs were still rich, reinforced by a strong public opposition to tax increases left open a whole new strategy for Premier Klein's incoming government. He and his ministers strongly reinforced the mistaken perception that spending was out of control and argued vigorously to cut expenditures (Taft, 1997, p. 12).

Between 1986 and 1992, government spending fell by 15% (adjusted for inflation) and, by fiscal year 1991/92, Alberta spent $4593 per capita on public services as compared to the Canadian average of $4758 (McMillian and Warrack, 1995). Yet, in June 1994, Klein told the *Edmonton Journal*, "When our government took over a year and a half ago . . . we saw uncontrolled public spending" (Taft, 1997, p. 25). Cooper and Neu (1995) suggest that the real reason that expenditures had outstripped revenues during the Getty years was that the government was not only feeling the effects of the low resource prices, but also the effects of granting the oil-and-gas sector tax breaks as oil prices fell.

4.2.2.2 Maintaining the Alberta Advantage—McMillian and Warrack (1995) outline three ways to eliminate deficits: (1) reducing public expenditures, (2) increasing revenues, or (3) a combination of reducing expenses and increasing revenue. The decision to concentrate on the expense side of the government balance sheet was made to preserve the Alberta Advantage—a combination of low taxes, fiscally responsible government, abundant natural resources and a well-educated workforce (Klein, 1996). The Klein government's belief that low taxes attract investment runs

contrary to conventional approaches to estimating the profitability of locating a business in a region (Drugge, 1995). The corporate sector estimates profitability based upon the possibility of high-volume sales combined with access to low-cost, high-quality inputs and inexpensive transportation. Further, the evidence available for the past 15 years clearly demonstrates that a low-tax approach to economic development (the basis of the Alberta Advantage) has not been successful in Alberta.[1] The importance of resource revenue in Alberta's budget further suggests that spending on public programs wasn't the source of the deficit but that low tax revenues were. And attempting to control the deficit solely by cutting public-sector spending in order to avoid tax increases is not the most effective remedy.

---

[1] McMillian and Warrack (1995) note that Alberta's taxes were lower that any other province's prior to Klein's election (approximately 75% of the Canadian average) and had been kept this low by the presence of natural resource revenues for the past two decades. (In 1993/94, Alberta received approximately 40.3% of its revenue from individual and corporate taxes while the Canadian average was 61.3%. The difference was largely made up of the taxes assessed on the extraction of natural resources.) Despite this low-tax approach, Alberta's economy has lagged behind other provinces. Between 1981 and 1993, Alberta's average annual growth in retail sales was 0.3%, substantially lower than that of higher-tax British Columbia (1.3%) and lower than the Canadian average of 0.7% (Drugge, 1995). Average annual real business investment in Alberta during this period (investment in plants, machinery and equipment) was -3.0%, while in British Columbia, it was 1.4% and the Canadian average was 2.9%. The average annual real growth rate in Alberta from 1981 to 1993 was 0.6%. British Columbia had a 2.9% growth rate and the Canadian average was 2.5%. What this analysis demonstrates is that Alberta's low-tax strategy has not worked. This is because Alberta's economy is largely driven by the natural resources market and a low-tax strategy lacks the power to successfully counter the fluctuations in the resource market.

Data on Alberta's tax situation raises further questions about the necessity of reducing public expenditures. In 1990/91, Alberta personal and corporate taxes equaled $2885 per capita (McMillian and Warrack, 1995). The Canadian average was $3681. Additionally, Alberta has a tax capacity approximately 33% greater than the Canadian average, meaning having taxes comparable to the rest of Canada would have netted Alberta $4331 per capita. Given that low taxes have little ability to stimulate growth in a resource-dominated economy, raising them towards the Canadian average in conjunction with reduction in public spending provides a balanced solution to the revenue problem without unduly burdening taxpayers. This solution has been successfully implemented in the neighboring province of Saskatchewan (Denis, 1995; Harrison and Laxer, 1995). Further, by adjusting both revenue and expenditures, Alberta could have maintained its investment in human capital that business owners rank as vastly more important in business success than low taxes (Drugge, 1995).

4.2.2.3 *Legitimating the decision to reduce public* spending

If, as the evidence presented above suggests, the Klein government could have reduced Alberta's deficit and debt in several ways and chose to focus on reducing public-sector spending for political reasons, it seems reasonable to ask how they legitimated this decision given the substantial reduction in government services it entailed as well as the overall support the government maintained despite substantial opposition to specific program cuts (Archer and Gibbins, 1997). Denis's (1995) analysis of media coverage of the Klein revolution finds two messages sent by government to Albertans: (1) government is a business where cost-effectiveness is the overriding concern, and (2) Albertans were responsible for the debt and deficit. This is consistent with Taft's (1997, pp. 83–87) analysis of the story of Al and Berta that was used during budget consultations in the early 1990s.

> This story first appeared in the Treasury workbook *Right on the money* for the March 1993 roundtables on Alberta's debt and deficit.
>
> Our story begins with an Alberta dream family of thirty years ago. They were the perfect couple, well groomed, happily employed, living the good life. They raised children, took holidays and bought things they wanted…
>
> Look at them now—living in a large rambling house with a two-car garage, safely in the suburbs. Al works as an executive in the oil business, Berta is also a professional. They have two kids, Bonnie and Kevin, both finishing high school and ready to imitate Mom and Dad, and lead the good life….
>
> One day, Al's life is changed when his company faces bankruptcy and he's forced to take a major cut in pay in order to keep his job. Berta still has a job but there isn't as much security as there once was and she worries she may lose her job….
>
> How can they go from being successful people with a comfortable lifestyle, to a family struggling to make just the minimum payment each month on the credit cards, let alone retire the principal? Like their city, their province and their country, Al and Berta face a mounting debt and a new reality, and it isn't pretty….
>
> The story of Al and Berta is not much different from the story of Alberta….
>
> More than a year later, the workbook *Beyond the bottom line* for another budget roundtable in September 1994 picks up the story again.
>
> It's been almost 18 months since we first met Al and Berta…. theirs was a dream life that turned to a nightmare of debt, mounting bills and worries for their future and their children's. It's a story that closely parallels the financial plight of Alberta….
>
> They faced new realities, tough choices, a burden of financial commitments and expectations that exceeded their pocketbook….
>
> So what's happened since then? Big changes, and not all happy ones. On the financial side, things are looking better. After hours of agonizing debates, Al and Berta finally decided to sell their big house in the suburbs. It was a painful decision….

After detailing Berta's job loss and her start-up of a small business, and describing the hard decisions they had to make about living within their means, the Story of Al and Berta ends with cautious optimism: chastened by living in a house in the suburbs and helping their children go to college, Al the oil executive (who never did lose his job) and Berta the professional are living in a 'modest, reasonably-priced condominium' and nervously weighing their options for the future.

The story, of course, is bare faced propaganda. But it works. The stories of Al and Berta began both of the workbooks that were given to the carefully selected participants in the roundtables. The stories' set of the carefully chosen facts that followed in the rest of the documents, and because the stories and facts fit together so well, the conclusions of the roundtables were virtually predetermined.

The story of the spendthrift family is a favorite of the Klein government, turning up frequently in speeches and comments. In January 1994, Ralph Klein gave a province-wide television address to Albertans on the need for cutting public services. Near the beginning of his speech, he told this story:

> Imagine a family that spends more than it earns year after year. For every dollar they earn, they spend $1.20 so they end up borrowing 20% on their credit cards. In the meantime, the bills keep coming in.... Before long, this family has run up their credit cards to the maximum just to pay for their extra spending.
>
> Imagine this family so deep in debt that they borrow even more money just to pay the interest on what they owe.
>
> Month after month, the bills arrive, the credit card invoices pile up, and still the family spends. Well, if they can't stop themselves, someone else will, and eventually they just won't be able to get credit.
>
> This is exactly where we were headed as a province....

Klein and other members of his government have used the family metaphor repeatedly, speaking of the need to do renovations and the mess these involved, or of the need to get our financial house in order. And they have tailored the facts to fit the story.

Once Albertans had come to accept these stories of the spendthrift family, it was easy to convince them that cutbacks to public services were not just a necessary evil, but good medicine. The problem is, the stories do not fit the evidence.

Taft (1997, p. 87) explains the purpose of the story of Al and Berta is to convince Albertans that there was no choice but to reduce public sector spending:

> The story of the boy who cried wolf teaches about not asking for help unnecessarily. The stories about the spendthrift family from the Klein government teach Albertans that government cutbacks are the fault of ordinary Albertans. It was average Albertans who made the decisions that led to Alberta's financial problems. It was overspending on public services to meet the unreasonable claims of the public the nearly bankrupted the province. At a stroke, the Tory government absolves itself of all blame. What the Klein government's stories do is explain problems, lay blame and provide solutions. For the government they fulfill the maxim: "Explain away what you can't forget and forget what you can't explain away." Just as Al and Berta were at fault for their financial woes, the

> government wants the voter to feel at fault for Alberta's financial woes. It is as if Progressive Conservative government decisions and policies never existed. This works so well because stories do not just help explain away things, they help people to remember some things and forget others. Stories provide a basis for selecting memories.

4.2.2.4 *Summary*—The decision to downsize Alberta's public sector was not an economic necessity. This supports the idea that reducing public-sector spending was a political strategy designed to appeal to both fiscal and social conservatives. In order to "sell" this to voters who might not support it for other reasons (e.g., increasing business profits or decreasing government intervention in social issues), the government created the story of Al and Berta to support the assertion that Alberta's deficit and debt were the fault of ordinary Albertans. The consequent restructuring of Alberta's public sector is explored in Section 4.2.3.

4.2.3 *Restructuring Alberta's public sector*

Reducing public spending to eliminate Alberta's deficit and debt resulted in substantial changes to Alberta's public sector. First, public-sector expenditures were curtailed. Reductions in spending began prior to the 1993 election when grants to hospitals, post-secondary institutions and municipalities were frozen in February 1993. In late 1993, the number of government departments was reduced from 26 to 16, public-sector salaries were frozen, the public-service payroll budget was rolled back by 5% and 2575 (of 30,000) civil servants were laid off (Mansell, 1997).

A second (and perhaps more significant) aspect of this change was the restructuring of Alberta's public sector. This restructuring is consistent with the New Public Management (see Section 3.2.3.3 above) including *centralizing* power in the hands of elected officials, developing supra-departmental authorities to *coordinate* activity and *controlling* policy implementation by delineating outcomes. At the same time, decision making power is *decentralizing* to line managers thereby forcing them to deal with problems and there is an overall *deregulation* and *delegation* of operations to increase the articulation between consumer needs and public services. The *New Public Management* entails cost cutting, transparent budget allocations, flattening hierarchies, and introducing market and quasi-market mechanisms

A major aspect of Alberta's public-sector restructuring is the growing number of quasi-independent boards and agencies. These include already 23 existing post-

secondary Boards of Governors, 60 School Boards (reduced from 170 in January 1994) and the creation of 17 Regional Health Authorities to rationalize hospital administration and planning. These agencies are responsible for the operation of major sectors of the public service and are controlled by government through policies, budgets, incentive funding and performance measures. This *centralizes* power in the hands of elected officials and allows them to *coordinate* activity and *control* policy implementation by delineating outcomes. At the same time, decision making power has been *decentralizing* to the agencies thereby forcing them to deal with problems and there is an overall *deregulation* and *delegation* of operations to increase the articulation between consumer needs and public services.

Another aspect of public-sector restructuring has been the introduction of business plans and annual reports to both government departments and quasi-independent boards and agencies. According to 1994's *A better way: A plan for securing Alberta's future*

> The goal is to secure a prosperous future for Albertans. The strategy is to focus on a better way—a better way to get the most value for the taxpayer's dollars, a better way to provide high quality essential programs at a cost we can afford. The process is business plans—three-year plans complete with specific objectives, actions, results and spending targets. The result is open and accountable government.
>
> Business plans, combined with a strong emphasis on results and performance measures, provide a new definition for accountability in government. Demonstrated performance, timely and open reporting, and focusing our efforts on results will be the hallmarks of the business planning process. And most important, Albertans will have the information they need to measure government's performance against clear objectives and high standards (Government of Alberta, 1994, p. ii.)

This contractual approach to accountability is explored further in section 4.4.1.1 below. A part of this approach is a change in the way the government does business. Specifically:

> Across all department business plans there is one consistent theme—the need to explore new approaches and change the way we do business. Government's Reorganization Secretariat will take the lead in exploring new approaches and inviting Albertans to participate in a better way of doing government business. Some important common approaches are reflected in the individual business plans:

- eliminating waste and duplication
- streamlining processes and getting rid of unnecessary regulations
- setting out expected results and beginning the complex job of establishing performance measures, benchmarks and targets
- targeting programs and services to those who need them most
- moving from direct service delivery to facilitating services delivered by other agencies
- shifting from a regulatory role to a policy and facilitation role
- increasing opportunities for private sector delivery
- improving productivity
- encouraging work teams, innovation and rewards for high performance
- reducing administration
- recovering costs for services so that, except for essentials, people who use services pay for them (Government of Alberta, 1994, pp. 14–15).

The introduction of business plans and linking funding to them has a number of benefits, according to the government:

> In providing a view of the next three years, the business plan allows the department and institutions to identify longer-range objectives and ways to achieve them. It promotes better planning and budgeting for the future, and fosters stability in operations. It also serves to "broaden the horizon" so that institutions can position themselves strategically to adapt to changing circumstances (AECD. 1995d, p. 7).

The introduction of business plans and performance measures is the mechanism by which agencies are made responsible for meeting government goals. The business plan structure makes agencies responsible for their performance and excludes consideration of the impact of declining government inputs. By accepting responsibility for operational performance, these quasi-independent boards and agencies insulate government from criticism (Harrison, 1995b). This approach is consistent with the principles of the New Public Management and the growth of the evaluative state. Government controls and coordinates institutional activity through policy instrument (rather than through direct regulation), thereby centralizing power but decentralizing responsibility. Increasingly, services are contracted out to private providers which results in the development of the quasi-market of the evaluative state.

4.2.4 Summary

Alberta's public sector has changed substantially since 1992. Public-sector reform has been motivated by a desire to reduce the size of Alberta's public sector—

ostensibly to deal with the growing deficit and debt—and thereby appeal to both fiscally and socially conservative voters. Reductions in spending were followed by restructuring of the public sector in keeping with the principles of the New Public Management and the evaluative state. Quasi-independent agencies become responsible for providing public services while government retains control over implementation through policy instruments such as performance-based funding, business plans and annual reports. Section 4.3 outlines Alberta's higher education policy between 1989 and 1999. Section 4.4 outlines the introduction of performance-based funding.

4.3 Higher education policy in Alberta

This portion of the case study outlines Alberta's higher education policy between 1989 and 1999. Section 4.3.1 outlines Alberta's higher education system. Section 4.3.2 outlines Alberta's higher education policy (with specific attention to funding) and the growing importance of higher education and labour market training and in developing and transferring knowledge and technology to the private sector. Section 4.3.3 summarizes Alberta's higher education policy. Subsequently, Section 4.4 outlines the introduction of performance-based funding.

4.3.1 Alberta's higher education system

Alberta's public post-secondary system enrolls approximately 123,000 students in 4 universities, 2 technical institutes, 15 colleges and 4 religiously affiliated, not-for-profit university-colleges (Dupré, 1987). Government funding of approximately $788 million is delivered through the Department of Advanced Education and Career Development (AECD) in two ways. A base grant (a combination of operating grants fixed at 1991/92 amounts and capital funds fixed at 1986/87 amounts) is provided each year. A series of small funding envelopes are awarded on a competitive basis and are designed to encourage and assist institutions in achieving government goals (Treasury, 1998).

A précis of Alberta's post-secondary system and its funding history was presented in the 1995 discussion document *A proposed performance-based funding mechanism for Alberta's public post-secondary education system*:

Funding by "formula"

After World War II, Alberta's post-secondary system experienced a marked transition as it responded to rapid enrollment increases and the needs of the economy. Federal direct grants to universities, which began in 1951, were eliminated in 1966 and replaced with a direct federal transfer to the province. This transfer was to cover about half the cost of post-secondary education. Alberta developed a method of allocating grants to institutions. The province provided a "formula" grant for each full-time student. This formula reflected the differences in costs for various programs. A University Capital Development Committee was established to make recommendations on capital and facility requirements during this period of rapid campus expansion.

During the late 1960s and early 1970s, Alberta's post-secondary system became very diversified and regionalized. In 1971, a Ministry of Advanced Education was established and added responsibility for post-secondary education in the agricultural, technical and vocational sectors. A New Program Development Fund was established in 1974 to support the development and introduction of new programs.

Decentralization was a basic feature of program development through the 1970s. major efforts were made to overcome geographic and other barriers to access.

Introduction of the "block grant" funding method

The mid-70s brought a shift in the way government distributed operating grants within the post-secondary learning system. In 1973, the use of the enrollment unit formula was suspended with the approval of a three-year operating grant plan based on projected enrollment for the 1973–76 period. Since 1976-77, each institution's previous year's regular operating grant has been the base, with an adjustment factor to compensate for inflation. In addition, each institution's operating grant could be further adjusted annually in three ways: for new programs, for the operating costs of new space, and for special circumstances. New program grants, initially conditional, were tracked until the program was in full operation. Then funding was folded into the operating base. Grants for new space were provided to cover the cost of a newly acquired facility in the year it came on stream. Special circumstance grants were provided from time to time to deal with conditions such as extraordinary enrollment or special projects.

The funding method is known as a "block grant". It is the method we use today.

Funding for special circumstances

Funding for enrollment growth

By the early 1980s, most institutions had seen significant growth in enrollment. Predictions for continuing growth pointed to the need for some funding adjustments. Beginning in the 1982/83 fiscal year, a supplementary enrollment growth funding "envelope" was introduced. This was based on marginal increases in enrollment over the 1981-82 year. An incremental amount was provided for each additional full-time equivalent (FTE) student. This funding was capped in 1991/92. From 1982 to 1992, enrollment increased by about 29,000 FTE students.

In 1994, the Access Fund was established to finance innovative, cost-effective methods of increasing Albertans' access to learning programs. The goal for the special three-year initiative is 10,000 additional, ongoing student spaces.

Maintaining enrollment
This year, Advanced Education and Career Development introduced an "enrollment corridor" policy. The purpose of the policy is to ensure, to the greatest extent possible, that levels of accessibility and numbers of student spaces at each institution are maintained despite the reductions in government funding (see Section 4.3.3.1 below). The policy states that an institution's operating grant could be reduced if student enrollment at the institution decreases. Recognizing that some declines in enrollment may be inevitable, if only in the short term, the policy sets a "corridor" within which an institution may reduce enrollments without penalty. The corridor for the six major institutions in Edmonton and Calgary is two per cent of the 1993-94 enrollment base levels. For all others, it is five per cent.

This policy will be reassessed if enrollment figures in Alberta decline because of factors outside of institutions' control, such as a high rate of employment.

Funding for capital renewal
In the 1970s, capital grants were provided for major capital projects. The replacement of furnishings and equipment, renovations, and site and utility maintenance were handled in conjunction with these projects and/or through general operating funds. As additions to capital inventories declined, funding programs were reintroduced over time to ensure that resources were available for the replacement and renewal of fixed assets. By 1981-82, all three elements of what came to be known as "capital formula funding"—for furnishings and equipment; renovations and alterations; and site and utility maintenance—were in place. Funding was based upon facilities areas, the replacement value of each institution's assets, and useful lifetimes in various asset categories. In 1990/91, the formula discontinued and each institution's allocation continued at the 1986-87 level. Institutions could spend the grants for capital renewal among the three asset categories.

In 1993/94, the department rolled capital renewal funding into the operating grants. This provided greater continuity of funding and gave institutions more flexibility to meet needs and priorities.

Matching grants
In 1980, the department established a 1980's Endowment Fund to increase the private sector's involvement in the funding of post-secondary institutions through donations. This followed a program, established a decade earlier, that had provided matching grants for capital funding donations to universities. The 1980's fund was succeeded in 1986 by the Endowment and Incentive Fund. Both programs were completed by March 31, 1993. In addition to providing needed funds, the programs helped to generate the awareness that responsibility for financially supporting post-secondary education lies with the private sector, as well as government. As a result of the stimulus provided by the fund, institutions' fund development capabilities were permanently enhanced (AECD, 1995d, pp. 2–4).

In 1994, several years of consultations resulted in the White Paper *New directions for adult learning in Alberta*. This entailed substantial changes in higher education funding that are documented in Section 4.3.3 below. First, an examination of Alberta's

higher education policy—with specific attention to the role of higher education as labour market training and as a source of knowledge and technology for the private sector—is presented.

4.3.2 Alberta's higher education policy in the 1990s

This section outlines the major developments in Alberta's higher education policy in the 1990s. Section 4.3.2.1 outlines the goals and strategies contained in 1992's *For all of our* futures report on post-secondary education and 1994's White Paper *New directions for adult learning in Alberta*. Section 4.3.2.2 outlines the frequent references to the role higher education plays in developing a skilled workforce. Section 4.3.2.3 discusses references to the role of research in developing and transferring knowledge and technology to the private sector. Section 4.3.2.4 summarizes higher education policy in Alberta since 1990. Subsequently, Section 4.3.3 outlines how the funding of higher education has changed.

4.3.2.1 Government policy reviews—In 1992, a Strategic Options Task Force was struck by the Minister to outline Alberta's post-secondary options (AECD, 1992). Its report *For all of our futures* correctly assumed that through the mid-1990s demand for student spaces would increase, public funding would remain flat or decline, and the gap would be met by non-government sources and increased efficiency and effectiveness. This report formed the basis of the 1993 *Adult learning: Access through innovation* consultations that led to the 1994 White Paper on adult learning in Alberta (AECD, 1993). While the Strategic Options Task Force generated four options for restructuring the higher education system, all four options see program rationalization occurring and government increasingly withdrawing from its role as regulator of the post-secondary system and instead influencing the higher education market "to ensure high value at the appropriate cost" (AECD, 1992, p. 9). Also of note is the prominence of performance indicators as a means to better management, deregulation and improved learner choice as well as the introduction of funding envelopes to decrease institutional dependence on government grants.

In November 1994, the White Paper *New directions for adult learning in Alberta* was released. *New directions* outlined four goals for Alberta's adult learning system:

1. *Accessibility*—The system will increase access for motivated Albertans to a diverse range of quality learning opportunities.
2. *Responsiveness*—The system will increase its responsiveness to the needs of the individual learner and to the social, economic and cultural needs of the province.
3. *Affordability*—The system will provide quality learning opportunities to the greatest number of Albertans at the lowest possible cost.
4. *Accountability*—The system will increase its accountability to Albertans for the results of publicly funded learning opportunities (AECD, 1994a, p. 7).

The development of these four goals were guided by five principles, established through consultations with Albertans:

1. The adult learning system exists to serve the social, cultural and economic needs of the learner and the community.
2. The adult learning system should achieve the goals and expectations established for it in consultation with Albertans.
3. The adult learning system should establish standards and measure its performance.
4. The adult learning system should be accountable to learners and other Albertans for the results achieved.
5. The adult learning system should provide information that assists Albertans in making timely and informed decisions about learning and career opportunities (AECD, 1994a, p. 7).

To achieve the four goals outlined above, the government sought to implement 22 strategies. The strategies were:

1. *Accessibility:* Establish an Access Fund to increase the number of learning opportunities available to Albertans (see Section 4.3.3.3 below).
2. *Accessibility:* Develop a plan to prepare for future enrolment pressures.
3. *Accessibility:* Expand the use of learning technology and alternate forms of program delivery to create more opportunities to learn (see Section 4.3.3.4 below).
4. *Accessibility:* Develop alternative routes to employability to assist Albertans not pursuing a conventional post-secondary education.
5. *Accessibility:* Demonstrate the benefits of private sector investment in human resources to develop more employee training opportunities.
6. *Accessibility:* Develop initiatives to help Albertans overcome barriers to participating in learning opportunities.
7. *Accessibility:* Develop alternatives for Albertans receiving income support to increase their employability and self-reliance.
8. *Responsiveness:* Create new paths for completing degrees to provide Albertans with learning opportunities that build upon their completion of diploma programs.

9. *Responsiveness:* Introduce the applied degree credential to respond to the knowledge and skill requirements of Alberta's changing economy (see Section 4.3.3.3 below).
10. *Responsiveness:* Establish consultation activities to ensure the adult learning system is responsive to the needs of Albertans.
11. *Responsiveness:* Establish a policy framework for university research to foster excellence in the creation and sharing of new knowledge (see Sections 4.3.3.5 and 4.3.3.6 below).
12. *Responsiveness:* Improve information and counselling services to assist Albertans in making effective decisions about learning opportunities.
13. *Responsiveness:* Improve the transfer of courses and the recognition of prior learning to assist the progress of Albertans in the adult learning system.
14. *Responsiveness:* Remove barriers to responsiveness in programming to more effectively meet the needs of learners.
15. *Responsiveness:* Develop an electronic application service to enable public post-secondary institutions to better serve Albertans as they seek admission to learning programs.

16. *Affordability:* Increase the responsibility of public post-secondary students for setting fees and covering the costs of learning to recognize the benefits of opportunities to learn (see Section 4.3.3.2 below).
17. *Affordability* Continuously evaluate student assistance to ensure that financial need is not a barrier to learning opportunities.
18. *Affordability* Establish a new funding mechanism to reward performance and productivity in publicly supported post-secondary education (see Section 4.3.3.8 and 4.4 below).
19. *Affordability* Hold institutional boards accountable for revising collective agreements to meet the changing economic circumstances.
20. *Affordability* Develop centres of program specialization in public post-secondary institutions to ensure quality, cost-effectiveness and efficiency.

21. *Accountability:* Require providers to measure and report on performance through an accountability framework to advise Albertans of results achieved in publicly funded learning opportunities (see Section 4.4 below).
22. *Accountability:* Ensure that providers of learning opportunities have met appropriate standards of quality to protect the learner (AECD, 1994a, pp. 8–17).

As outlined in Section 4.3.3 below, these strategies have resulted in substantial changes to how funds are allocated to post-secondary institutions. Prior to exploring how resource allocation has changed, it is necessary to more fully examine government documents and highlight two trends: increasing discussion of higher education as labour market development (Section 4.3.2.2) and increasing discussion of higher education developing and transferring knowledge and technology to the private sector (Section 4.3.2.3).

4.3.2.2 Education as labour market development—Through the 1990s, government documents increasingly discuss higher education as a means to develop a highly skilled workforce (with a consequent reduction in discussion of the other outcomes of higher education). This first becomes evident in *Towards 2000 together*:

> A highly skilled workforce will be essential for Alberta to succeed in the knowledge-intensive world of the 21st century. Consequently, new approaches may be required to more effectively bring together economic and educational priorities. These approaches may require a shift in the responsibilities borne by government, the private sector and the individual (Government of Alberta, 1992, p. 10).
>
> If business is to assume a larger role in determining educational priorities, it should also expect to assume more responsibility for raising funds in support of educational institutions. Again, all economic participants will want to consider carefully the potential benefits and costs of more fully integrating Alberta's educational and economic priorities. This integration of priorities will, of course, need to satisfy two complementary goals... ensuring that Alberta has the skilled and adaptable workforce it needs to compete in the global economy... while continuing to contribute to the development of informed, productive and socially responsible citizens (Government of Alberta, 1992, p. 28).
>
> Alberta's universities, colleges and technical institutes play a crucial role in linking science and technology with industrial innovation. These institutions train the needed scientific, engineering and technical personnel and conduct most of the research needed to further technological development (Government of Alberta, 1992, p. 49).

Subsequently, *Seizing opportunities: Alberta's new economic development strategy* notes:

> From elementary grades to post-secondary training, education must give Albertans competitive skills to succeed in the evolving world economy. To do this, we need to increase private-sector participation in education and training at all levels. Business can help foster the entrepreneurial attitudes and skills necessary to increase competitiveness.... The Minister of Advanced Education and Career Development has been working with a group of representatives from business, labour, equity and minority groups to determine the need for a private-sector labour-market development and training board. This is an important step in bringing together various players to jointly set policy and manage the important issue of labour market training in Alberta (Government of Alberta, 1993, pp. 20–21).

In February 1994, the government's first business plan *A better way: A plan for securing Alberta's future* noted that one objective is to:

> increase the responsiveness of education and training programs to individual Albertans and their communities with priority given to contributing to Alberta's economy and preparation for the labour market (Government of Alberta, 1994, p. 3)

In March 1994, the draft White Paper *An agenda for change* was released. Of particular note is the shift of emphasis in income-support programs. "Support for education, training and re-training, with the aim of increasing individual self-sufficiency and reducing dependency on social support systems is a priority, both provincially and nationally" (AECD, 1994b, p. 2). *An agenda for change* also notes:

> Adult learning will continue to address the social, intellectual and cultural needs of Albertans. However, the institutions will be expected to give renewed emphasis to programming to respond to the needs of the economy. Business and industry will be encouraged to take increased responsibility for job-specific training (AECD. 1994b, p. 16).

And later:

> Industry and post-secondary institutions will be encouraged to forge stronger links with each other to ensure the relevance of education and training to the work force and economy. The employability of graduates and their ability to become entrepreneurs will be emphasized (AECD, 1994b, p. 16).

Substantial shifts in the roles of various stakeholders were outlined:

> Learning providers will be more responsive to the needs of the individual, community and the economy. They will solicit information from industry about the needs of the labour market and encourage employers to play a greater role in program design. There will be more emphasis on non-public revenue sources.... Where appropriate, private learning providers will be accredited so that they may play an expanded role in the adult learning system (AECD, 1994b, p. 5).

> Business and industry... will play an expanded role by becoming active participants in the adult learning system. They will have an enhanced role in providing advice to the system both in terms of overall direction and specific program design. Employers will take a greater role in job-specific training. Industry will also be expected to contribute more to the costs of education and training (AECD, 1994b, p. 6).

The subsequent White Paper *New directions* appears to have deviated from this trend and outlined four goals for Alberta's adult learning system that include mention of non-economic goals:

1. *Accessibility*—The system will increase access for motivated Albertans to a diverse range of quality learning opportunities.
2. *Responsiveness*—The system will increase its responsiveness to the needs of the individual learner and to the social, economic and cultural needs of the province.
3. *Affordability*—The system will provide quality learning opportunities to the greatest number of Albertans at the lowest possible cost.
4. *Accountability*—The system will increase its accountability to Albertans for the results of publicly funded learning opportunities (AECD, 1994a, p. 7).

Despite this, the policy initiatives that have resulted from *New directions* have been focused exclusively on economic (i.e., labour market) outcomes. Specifically, the Access Fund (see Section 4.3.3.3 below) encourages increasing enrollments in disciplines with high labour-market demand and the Performance Envelope (see Section 4.4 below) rewards institutions for producing economic outcomes such as high rates of graduate employment.

Alberta's 1997 human resource strategy *People and prosperity* continues this approach when it states:

> Continuous learning and the updating of skills is a shared responsibility. The primary onus is on individual Albertans, but strategies are needed to help them access learning opportunities and obtain the skills and knowledge they need to be successful. Student assistance ensures that financial barriers do not act as a deterrent to Alberta pursuing adult learning. Alberta's schools, universities, colleges and technical institutes play a key role in our human resource strategy. Schools are responsible for providing education programs that develop individual potential and prepare young Albertans for daily living, the world of work and lifelong learning. Adult learning institutions have a responsibility to provide high-quality, accessible learning opportunities to people who are preparing for careers and to those who wish to update their skills. Employers, employee groups and unions have a responsibility to facilitate learning opportunities in the workplace (Government of Alberta, 1997a, p. 10).

4.3.2.3 The commercialization of research—Through the 1990s, government documents emphasize the role higher education plays in developing and transferring knowledge and technology to the private sector. This section outlines the government's policy with regard to research at post-secondary institutions.

Towards 2000 together stated that one of Alberta's economic objectives was "to encourage the development and application of science, technology ad research to

enhance Alberta's domestic and international economies" (Government of Alberta, 1992, p. 6).

In 1993, *Seizing opportunity: Alberta's new economic development strategy* noted that Alberta would:

> substantially increase the focus on commercialization of research and development, through activities which include the development of an industry-based technology commercialization organization to focus on market research, prototype development, and initiation of management teams capable of building a company around a technology (Government of Alberta, 1993, p. 10).

In February 1994, the government's first business plan *A better way: A plan for securing Alberta's future* noted that one objective is to:

> increase the commercial applications of Alberta inventions and innovations and improve the effectiveness of government-funded research and development activities (Government of Alberta, 1994, p. 3)

In support of this goal, government promised to:

> encourage quality research, support research programs with clear commercial potential and which add to the competitiveness of Albertan industries (and) focus the efforts of the Alberta Research Council on biotechnology, energy breakthrough technologies, energy technologies, environmental technologies, forest products, information technologies, manufacturing and pulp and paper (Government of Alberta, 1994, p. 4).

The expected results include:

> Research and development activities in Alberta are expanded, there is an increase in successful commercial endeavors stemming from research, and a corresponding growth in Alberta's economy (Government of Alberta, 1994, p. 4).

Although *New directions* largely ignored university research, it did trigger a review of university research in Alberta. This 1995 review proposed that any university research policy must seek:

1. to contribute to *human resource development* by training a highly educated and competitive workforce, providing for a new generation of researchers, and providing for the broad education of Albertans in general, and

2. to contribute to *the cultural, social and economic development of Alberta* through access to and the development of new knowledge (AECD, 1995c, p. 28).

Alberta's 1996 policy framework for university research (AECD, 1996g) by and large adopted these goals and created the Research Excellence Envelope (see Section 4.3.3.5 below). This was subsequently supplemented by the Intellectual Infrastructure Partnership Program (see Section 4.3.3.6 below). Both of these envelopes advantage disciplines and research topics that are relevant to the needs of the marketplace.

4.3.3 Funding changes in Alberta's higher education system

Following the release of *New directions for adult learning in Alberta*, substantial changes occurred in the funding of Alberta's post-secondary system. Section 4.3.3.1 outlines the three-year, 21% reduction in government grants and how this is part of a longer-term trend towards declining per-student, real-dollar government funding of post-secondary education. The decline in government funding has been partly offset by increases in tuition, as summarized in Section 4.3.3.2. *New directions* resulted in the development of funding envelopes (i.e., incentive and performance funding) as allocative tools (AECD, 1994). Envelope funding is projected to increase from 5% of government transfers to institutions in 1996/97 to 17% in 2000/01. Section 4.3.3.3 presents information about increasing enrollments through the Access Fund. The integration of technology into curriculum is funded through the Learning Enhancement Envelope as described in Section 4.3.3.4. Section 4.3.3.5 and 4.3.3.6 outline the Research Excellence Envelope and the Intellectual Infrastructure Partnership Program respectively. The Infrastructure Renewal Envelope is presented in Section 4.3.3.7. Finally, the Performance Envelope is outlined in Section 4.3.3.8. The changes in how Alberta's post-secondary system is funded is summarized in Section 4.3.3.9.

4.3.3.1 Government grants—The three-year, 21% reduction to institutional base grants that began in 1994 continued a long-term decline in public funding (AECD, 1994a). When the 21% reduction is combined with rising enrollments and sluggish funding growth through the 1980s, per-student, real dollar (1997=100) government grant-based revenue has fallen from $14,551 in 1982/83 to $7968 in 1997/98—a reduction of 45.3% over 15 years (Shillington, 1998). Additional pressure will be exerted on Alberta's higher education system by an expected increase in enrollment

of between 23,000 and 37,000 students between 1997 and 2005 (AECD, 1997a). Although some additional funding has been committed to manage this growth, projections suggest that per-student funding levels will continue to decline (ACIFA and CAFA, 1998). This is consistent with the government's commitment to continuing efficiency gains (AECD, 1998b).

4.3.3.2 Tuition increases—To off-set declining government funding, tuition has been increased. Alberta's tuition cap is the percentage of net operating expenditures for credit programming that tuition can make up and the can increased from 12% in 1989 to 20% in 1991 to 30% in 1994. The 30% cap can not be reached prior to 2000/01. Annual increases are limited to $215 (indexed to inflation) and made up 21.3% of institutional revenue in 1996/97, up from 14.9% in 1993/94 (AECD, 1994a, 1998a). Despite this reapportionment of costs, real-dollar, per-student, grant- and tuition-based revenue declined by 37% between 1982/83 and 1997/98 (ACIFA and CAFA, 1998).

4.3.3.3 Access Fund—The Access Fund was established to finance innovative, cost effective methods of increasing student spaces while meeting labour market needs (AECD, 1994a). The goals of the Access Fund were:

a) To enroll more adult Albertans in basic education and skills training, career and technical programs and degree programs.
b) To expand or create programs to enable more Albertans to acquire the attitudes, skills and knowledge required for employability and personal growth; and
c) To improve the productivity and performance of the adult learning system by supporting quality program proposals that demonstrate effective and efficient use of public funds (AECD, 1996l, p. 1).

Originally, $47 million was allocated to create 10,000 additional spaces between 1994 and 1997. The $4700 allocated per student (as compared to the $7649 provided per-student through base grants in 1993/94) was designed to eliminate inefficiencies within the system (AECD, 1996c). The Access Fund added 10,601 full-time equivalent spaces at an annual cost of roughly $2900 per student (AECD, 1996d). According to then-Minister of Advanced Education Jack Ady, "Many of the programs include work experience opportunities which strengthens the relevance of the learning and the employability of the graduates" (AECD, 1996c, p. 1). Science programs saw the largest growth in new full-time equivalent (FTE) spaces with 2350

FTEs. Other programs also grew: computing science (717 FTEs), agriculture (536 FTEs), environmental (608 FTEs), technologies (245 FTEs), manufacturing (248 FTEs), business (624 FTEs), management (490 FTEs) and the humanities (889 FTEs) (AECD, 1996l, p. 8).

The 91 of 600 applications were approved, including eight "applied degrees". Applied degrees add one year of classroom instruction and one year of supervised work experience to existing two-year diploma programs offered at colleges and technical institutes (AECD, 1998c). According to *New directions*, "applied degree programs must meet the needs of the learner and the economy, and involve employers in program design, delivery and the costs of the work experience component" (AECD, 1994a, p. 11). A review of the applied degree program has resulted in its continuation and expansion (AECD, 1998d).

In January 1999, $51 million from a new Access Fund was allocated to increase student spaces in information and communications technology (ICT) programs (Treasury, 1999). This announcement follows premier Ralph Klein's commitment to double the number of entry spaces in ICT programs by 2001. "As I said in my televised address, our goal is 35,000 new jobs in this sector by 2005. This announcement will support that goal," said Klein (AECD, 1999d, p. 1). Then-Minister of Advanced Education Clint Dunford continued: "We are responding to increased demand for student spaces and giving people the opportunity to succeed in today's knowledge-based world" (AECD, 1999d, p. 1). Among the data institutions need to submit with their applications for Access Funding for 2000/01 is evidence of student and labour market demand for programming as well as collaboration (other institutions or industry partners) (AECD, 1999b).

4.3.3.4 Learning Enhancement Envelope—The Learning Enhancement Envelope (LEE) provides $10 million per year from 1996/97 to 2001/02 to encourage institutions to develop alternative opportunities for adult learners with technology (AECD, 1996b). LEE funding will "advance the development of a province-wide virtual learning system to... bring about a new order of cooperation among post-secondary institutions as they become collaborative members of technology-enhanced learning networks" (AECD, 1996b, p. 9). LEE funding can be used to:

- Adapt curriculum for new, technologically supported models of learning for students who may be on campus, at a community site, at home or at a workplace and test these models.
- Increase the number of courses and programs that are available to students who need access to opportunities from a distance.
- Design training that will help students, support staff and instructors to acquire the skills necessary to study and work in settings that integrate technology with learning.
- Conduct research that will add knowledge about the integration of technology with teaching and learning.
- Devise and test models of learner support that will be required to successfully integrate technology with learning.
- Purchase equipment and infrastructure that are required to increase access or to deliver curriculum using technology (AECD, 1996b, pp. 7–8).

According to the government, "priority will be given to initiatives that demonstrate collaboration among institutions and other organizations" such as employers (AECD, 1996i, p. 10).

4.3.3.5 Research Excellence Envelope—The Research Excellence Envelope annually distributes $2 million (AECD, 1996h) to address the declining research capacity noted in a 1995 review (AECD, 1995c). Items eligible for funding through the Research Excellence Envelope include:

> the purchase or upgrading of particular research equipment; adaptation/establishment of laboratory or other appropriate space; the purchase of specialized or enhanced computing equipment or software; particular library acquisitions or enhancements; research assistantships and/or technical support; travel funds for research purposes or unusually expensive research supplies. (AECD, 1997g, p. 1).

4.3.3.6 Intellectual Infrastructure Partnership Program—The Research Excellence Envelope was supplemented in 1997 by the Intellectual Infrastructure Partnership Program (I2P2) that commits $45 million over three years (AECD, 1997f). According to Clint Dunford, then-Minister of Advanced Education and Career Development:

> The Intellectual Infrastructure Partnership Program is a unique provincial program, and we, in Alberta, are leaders in building for the knowledge economy. Albertans have stated repeatedly... and most recently at the Growth Summit... that universities and university research are critical ingredients in building a dynamic and responsive economy and in ensuring an ongoing high quality of life (AECD, 1997f, p. 1).

The rationale for the introduction of I2P2 was:

> The development and application of new knowledge has become central to competitive success with the global economy. Universities and research hospitals are the key to:
>
> - the development of new knowledge and technologies;
> - the transfer of new knowledge and technologies to the private sector and communities;
> - the development and retention of highly trained and knowledgeable personnel in the province; and
> - employment growth and wealth creation related to the development of new technologies and knowledge (AECD, 1997k, p. 1).

I2P2 allows institutions to invest in infrastructure in order to attract and retain top researchers and secure addition infrastructure funding from the Canada Foundation for Innovation. This program emphasizes expanding research capacity in health, the natural sciences, and engineering and environmental sciences. Application from outside those fields must address Alberta's economy and/or quality of life. Those items eligible for funding through I2P2 include

> equipment, specimens, scientific collections, computer hardware and software, information databases, communications linkages and other intangible properties used or to be used primarily for carrying out research, including housing and installations essential for the use and servicing of those things (AECD, 1997k, p. 2).

As a condition of funding, "(e)ach application will be required to provide evidence of a significant financial commitment made by a partner or partners from the private sector (business or non-profit sector) towards the cost of the project" (AECD, 1997k, p. 3). The 1997 I2P2 awards supported:

- a 3-D microscope to aid cancer research;
- laser and detector systems to help develop practical laser-based measurement in natural resource industries;
- high performance computing equipment and technology;
- magnetic resonance spectrometry equipment to advance research into drugs and medical treatment as well as agricultural and environmental technologies; and
- a containment facility for medical research (AECD, 1997l, pp. 1-2).

These infrastructure investments are consistent with the I2P2 criteria of expanding research capacity in health, the natural sciences, and engineering and environmental

sciences to develop new knowledge and technologies and transfer it the private sector and communities. This pattern was also evident in the November 1998 allocation of I2P2 funding where then-Minister Responsible for Science, Research and Information technology Lorne Taylor stated "Research and innovation are key to our future. I am confident that these projects, which focus on fundamental research, will strengthen our competitive advantage and support a healthy economic future" (AECD, 1998i, p. 1). The projects approved during this round of I2P2 funding included:

- modern laboratories and equipment to research rational drug design;
- labs and equipment to support innovative research in engineering to support "strategic research programs with strong links to industry";
- labs and equipment for agricultural biotechnology research related "to improvements in agricultural methods, water resources and environmental quality"; and
- equipment for "research into and analysis of surface properties of materials used in petrochemical, oilsands and manufacturing industries" (AECD, 1998i, pp. 1–2).

Again, these allocations are consistent with the I2P2 criteria of developing and transferring knowledge and technology to the private sector.

4.3.3.7 Infrastructure Renewal Envelope—Beginning in 1996, the Infrastructure Renewal Envelope provided $23 million over three years to modernize and update equipment (AECD, 1996k). Following a June 1997 facilities evaluation that outlined $350 million in required infrastructure maintenance by 2002 (AECD, 1997e), an additional $105 million was allocated over three years (AECD, 1997j). Of that $105 million, $50 million will be allocated on the basis of the facilities evaluation. The remainder will be allocated on the basis of system-wide needs and the project proposals submitted to government. Institutions are expected to contribute between 20 and 40% of project costs (depending on an institution's location) from existing budgets or non-governmental sources. The 1998 provincial budget allocated $20 million in one-time funding from the Infrastructure Renewal Fund (AECD, 1998h) to expand Albertan's access to library resources. One outcome of this project will be to link together post-secondary and public libraries throughout the province to increase user access to materials (AECD, 1999c).

4.3.3.8 Performance Envelope—The Performance Envelope stems from a commitment in *New directions* to establish a funding mechanism "to reward performance and productivity in publicly funded post-secondary education" (AECD, 1994a, p. 15).

> The Performance Envelope could also be structured to deal with inflation. A minimal level could be made available to all institutions to compensate for inflation. Additional funding would depend on each institution's performance "report card". Institutions that rate high in performance would gain more funds (AECD, 1995d, p. 9).

The Performance Envelope competitively allocated $15 million annually beginning in 1997 based upon institutional performance (AECD, 1997a). At that time, the purpose of the Performance Envelope was expressed as twofold:

> ...to act as an incentive for post-secondary institutions to meet goals set out in the business plan for Advanced Education and Career Development and to recognize and reward progress towards those goals. ... This is a unique approach, designed to orient institutions in the direction of clear system-wide goals and to build in incentives for ongoing improvements in adult learning (AECD, 1997h, p. 1).

Performance awards become part of institutions' base grants in subsequent years. Funding allocations will increase to $23 million in 2000 (Treasury, 1999). Alberta's performance-based funding mechanism is fully outlined in Section 4.4 below.

4.3.3.9 Summary—Post-secondary funding in Alberta has changed in a number of ways. There has been a long-term declining in real-dollar, per-student government grants to institutions since 1982 with a substantial acceleration of the decline beginning in 1994. There has been an increasing use of incentive funding and the introduction of performance-based funding to reward institutional attainment of government objectives. Finally, there has been an increasingly reliance upon non-governmental sources of revenue. These changes were clearly spelled out in the White Paper *New directions*.

4.3.4 Summary

Alberta's higher education policy has changed during the 1990s and this change has accelerated following the release of *New directions* in 1994. Of note is the increasing discussion of higher education as a source of labour market training and its role in developing and transferring knowledge and technology to the private sector. These

changes have been operationalized by the substantial changes to post-secondary funding outlined in Section 4.3.3 above.

4.4 Implementing an accountability framework and performance-based funding

This section outlines the development of both Alberta's accountability reporting framework and performance-based funding mechanism. As performance-based funding is allocated based upon indicators derived from the accountability reporting framework, it is necessary to include discussion of both. Section 4.4.1 describes the implementation of Alberta's accountability reporting framework. Section 4.4.2 explains the implementation of performance-based funding in Alberta. Section 4.4.3 summarizes the evidence provided in this section.

4.4.1 Alberta's accountability reporting framework

Section 4.4.1.1 outlines government policy statements regarding Alberta's accountability reporting framework. Section 4.4.1.2 discusses government accountability in Alberta in order to place post-secondary accountability in context. Section 4.4.1.3 traces the development of Alberta's accountability reporting framework. Section 4.4.1.4 outlines the linkages between the accountability reporting framework and performance-based funding.

4.4.1.1 Increasing institutional accountability—The draft White Paper *An agenda for change* notes that "...learning outcomes and success of students will play and important part in the institutional funding system" (AECD, 1994b, p. 5) and:

> Throughout Round One of our public consultation, Albertans told us the adult learning system must be more responsive to the labour market, to the differing needs of communities and to the changing social and economic environment. In addition, Albertans want the system to be more accountable to its users, with a focus on measuring program outcomes/results. Learners, taxpayers and employers want assurances that adult learning programs and institutions are meeting their objectives. Key performance measures need to be defined and communicated to the public so learners can make informed choices (AECD, 1994b, p. 7).

The draft White Paper specifically mentions developing an accountability reporting framework for post-secondary institutions based upon performance measures:

> The department is committed to working with institutional representatives to develop a comprehensive accountability framework for the publicly supported adult learning system. It will include the following elements:
>
> - an agreed-upon set of expected results for the system;
> - a core set of quantitative and qualitative performance indicators for evaluating success in meeting results; and
> - a mechanism for communicating results to learners and taxpayers.
>
> As an initial step, the department has developed a discussion paper outlining five key areas of accountability: learning; university research; community service; fiscal management; and system accountability (AECD, 1994b, p. 14).

A background document for the White Paper consultation process elaborates on the need for greater accountability from post-secondary institutions:

> There is widespread public support for higher education and training. However, all publicly funded organizations, including post-secondary institutions and other providers of adult education and training programs and services, are being challenged by government and the public to demonstrate that they are prepared to examine the way in which they are organized and operate, have the capacity to innovate and to respond to the changing needs of the society they serve and deliver high quality services.
>
> In addition, education and training are increasingly viewed as major contributors to economic competitiveness. As a result, post-secondary education and training systems are under pressure from business and industry to anticipate the skill and knowledge requirements of the economy and to produce the appropriate number, type and mix of graduates required by the labour market.
>
> Concern with the role of teaching, the length of time taken by students to complete their programs, failure rates and time to degree in graduate programs, drop out rates and barriers to the transferability of courses and credits between programs and institutions, reflect the larger aim of improving the efficiency and effectiveness of post-secondary education and training (AECD, 1994c, p. 51).

And later:

> Given the heightened pressures for accountability, post-secondary institutions and public training providers can increasingly expect to be asked to develop appropriate performance indicators to help demonstrate that they are meeting their objectives, are willing to innovate in order to be more efficient and effective, and show that they are able to respond to the changing needs of students, the labour market and society. The provincial treasurer has made it clear that performance indicators will be required for a wide range of grant funded programs as part of the budget process (AECD, 1994c, p. 52).

The White Paper *New directions* mandated the creation of an accountability reporting framework to outline the outputs and outcomes of the higher education system (AECD, 1994a). Specifically, *New directions* required:

> ...providers to measure and report on performance through an accountability framework to advise Albertans of results achieved in publicly funded learning opportunities.
>
> Albertans require assurances that public funds provided for learning opportunities are well spent. Also, Albertans require current and objective information to assist them in making informed choices about opportunities to learn.
>
> The department is consulting with public post-secondary institutions to develop and implement a framework for ensuring accountability to Albertans for their investment in learning opportunities. The framework will include results expected, and a core set of qualitative and quantitative performance indicators to evaluate an institution's success in meeting those results. These indicators will be published by providers in calendars, annual reports or business plans as appropriate.
>
> The public institutions and the department will develop common definitions of terms indicating performance and the procedures for data collection. Providers will be expected to demonstrate how information from these indicators is used to improve the future quality and availability of learning opportunities.
>
> Existing accountability mechanisms for other sectors within the system, such as licensed private vocational schools, will be evaluated. The results expected within these existing mechanisms will be reconciled with results expected with other sectors in the system as the accountability framework is developed. Comparable indicators of performance across sectors will be developed wherever possible, with the distinctive roles and objectives of each sector being respected.
>
> Performance indicators in the apprenticeship sector, for example, will address standards set by industry. In cooperation with the network of industry advisory committees, the department will use performance indicators to ensure that apprenticeship training is relevant to industry's current and emerging needs.
>
> Through activities of the Canadian Education Statistics Council, the department will continue to work with other provinces and members of Alberta's adult learning system to develop national performance standards and measures.
>
> The department supports the efforts of international organizations such as the Organization for Economic Cooperation and Development, which are trying to establish comparable international indicators of performance in learning opportunities. To ensure quality in learning opportunities available to Albertans, standards used in our province should meet or exceed the standards of other jurisdictions (AECD, 1994a, pp. 16–17).

A 1995 review of university research in the Alberta echoes previous discussion of the need to increase accountability:

> People's perceptions about universities and university research are almost as significant as funding in creating a positive environment. If the level of public confidence in universities and university research is low, then public funding will not be readily available.
>
> In my view, the problem of the public's perception of the universities goes beyond a lack of appreciation for the university research function. I feel that much of the current criticism of universities is the result of misunderstandings about the overall education function of the universities. This situation is exacerbated during periods of fiscal constraint and a tighter job market for university graduates.
>
> Therefore, the universities must take a more active role in developing public support. The universities must demonstrate that they are responsive—that they are effectively meeting appropriate labour market needs as well as broader educational needs. And, all of this must be achieved in the context of reduced public funding and increasing demands for accountability.
>
> The universities must address this issue quickly and effectively, by developing plans for transparency, open communications and awareness-raising. In the context of these relative new and, in my view, increasingly serious challenges to the quality of university research in Alberta, I believe it is important for AECD to take on a more active role in support of university research. The department must clarify its role and responsibilities in this area, and let the universities know what the government expects in terms of the quality of the research function and the effectiveness of the research system. To begin, the government must clarify its expectations by identifying the research standards and benchmarks it is setting for universities in this province, in comparison to other Canadian universities (AECD, 1995c, p. 27).

Alberta's 1996 policy framework for research adopted these suggestions and outlined a series of performance indicators to measure research excellence (AECD, 1996g, p. 6).

4.4.1.2 *Overall government accountability*—The accountability reporting framework introduced to Alberta's post-secondary system is part of a larger accountability framework covering all of government:

> Government in Alberta is driven by ministerial three-year business plans (what each ministry intends to do), budgets (what Treasury plans to spend) and annual reports (what each ministry has accomplished) based upon performance measures called key performance indicators (KPIs). Thus, there is a hierarchy of KPIs that starts at the province-wide level and continues downward to each department (ministry). The province-wide indicators, which are in effect the report card applied to the whole government, are published by Alberta Treasury each year as part of the annual financial reporting system of the province. This document, *Measuring up: Annual report on the performance of the Government of Alberta*, contains

> 23 indicators of what government considers to be its core of its own performance, from life expectancy at birth to taxation load to water quality (CAFA, 1999, p. 1).

Another way to think about this framework is as a series of contracts (AECD, 1998j). The Government Business Plan is a partnership agreement between government and the electorate. Ministerial Business Plans are contracts between a minister and various stakeholders as well as a contract between a minister and government decision-making bodies (i.e., caucus, cabinet, standing policy committees, etc.). Department and Agency (i.e., institutional) Operating Plans are contracts between the agency or department and a minister. The degree to which these contractual obligations have been fulfilled are outlined through various performance measures. In this way, agencies, departments, ministers and government are held accountable (i.e., provide a report on their performance and are responsible for it) to by those whom they have a reporting obligation.

According to the discussion paper *A proposed performance-based funding mechanism for Alberta's public post-secondary system*:

> The government's business planning model includes an improved accountability framework and emphasis on reporting and openness. In the area of post-secondary education, this means more visibility and information to the public. It means showing Albertans that the post-secondary system is prepared to examine the way in which it is organized and operates, that it has the capacity to innovate and respond to those it serves, and that it delivered high quality services efficiently and effectively. By communicating goals, mandates and expected results, the department and institutions can help ensure that legislators and Albertans can comment knowledgeably about and assess performance in the adult learning system. Greater openness will encourage better understanding and, in turn, greater support. Effective accountability by those managing public resources depends on sound information. Accountability information must be understandable, relevant, reliable and comparable. This new direction in accountability and reform was supported by stakeholders during our public consultations (AECD, 1995d, p. 5).

4.4.1.3 *Introducing accountability to Alberta's post-secondary system*—The 1993 discussion paper *Accountability: Expectations of the public post-secondary system* was the first step in developing Alberta's post-secondary accountability reporting framework. This document defines accountability as "doing a good job and assuring the public of a job well done" (AECD, 1993, p. 2). A number of existing accountability activities were outlined which the performance indicators of the accountability reporting framework were expected to supplement:

Some activities which enhance program accountability are the following:

1. Under the *Guidelines for System Development*, public institutions must have Ministerial approved mandate statements and development plans approved in principle. These are subject to periodic review.
2. Institutions submit proposals to justify introducing new programs or expanding existing programs. These are reviewed under the *Guidelines for System Development* and approved mandate statements.
3. Conditionally approved programs are evaluated by institutions and reviewed by the department prior to receiving permanent financial support through the base budget. Program evaluations look at the success of the program offering. However, these evaluations tend not to be in-depth, and their main focus is on inputs rather than outputs.
4. Many institutions use outside advisory committees or review panels to periodically evaluate and update their own programs. These advisory bodies are composed of companies or agencies that hire graduates of these program. This is an important way in which the public has input to changes in curricula so that programs respond better to the needs of the job market.
5. Several college-level institutions (public colleges, technical institutes and vocational colleges) have regularly surveyed graduates within a year after leaving college. A graduate's success in finding a job that relates directly to the college program is the key issue addressed in many of these surveys. The Universities Coordinating Council has recently proposed that the universities do similar surveys of their graduates. Post-secondary institutions in the province also cooperate with Statistics Canada in follow-up surveys of graduates.
6. In some occupational areas, accreditation or accreditation-like processes are in place nationally, and some programs are reviewed by these bodies. Programs offered by universities, colleges and technical institutes are all included.

Some activities which enhance general financial accountability are the following:

7. In each institutions, the management is accountable to a Board. Boards can, and do, insist on changes to improve this accountability.
8. Institutions are required to submit development plans to the Minister outlining financial performance targets, needed physical facilities, innovations in program delivery and desired new programs. These are reviewed and revised in the decision-making process.
9. Boards are required to submit financial statements as part of the annual reports tabled in the Legislature.
10. Institutional budgets and enrollment reports are reviewed annually by the Auditor General and the department.
11. Budget restraint has been a fact of life for post-secondary institutions for a number of years. In response, some institutions have increased their internal efforts to reduce costs. Strategic planning is resulting in some changes that reduce duplication within the institution, that promote cooperation with other instiutions, and that eliminate programs that are no longer relevant to the community or job market or no longer have sufficient priority within the institution.
12. Research is evaluated by those who fund the research, whether the granting councils, the private sector or government.

At the provincial level, the following activities contribute to enhancing system accountability.

13. All public post-secondary institutions are required to do their long-range planning under the *Guidelines for System Development*. These guidelines require each institution to have a mandate statement approved by the Minister (a statement that outlines the institutional purpose, credentials and program areas offered and the primary service region) and outlines a review process for institutional program and facility development.
14. The Students Finance Board undertakes regular audits and reviews of policies, such as the recently announced review of loan repayments.
15. The Alberta Council on Admissions and Transfer (ACAT) works with institutions to increase the number of courses whose credits easily transfer within Alberta. The annual listing of transfer agreements and course-by-course credit equivalencies published by ACAT indicates the extent to which transfer agreements are in place. ACAT also encourages institutions to collaborate in the development of consistent entrance requirements, especially where the same program is offered at more than one institution.
16. A province-wide reporting system for information on students and programs is close to full implementation. This move to common definitions and guidelines improves information and helps to place all institutions on a consistent footing when describing their activities and successes (AECD, 1993, pp. 6–7).

Criticism of existing accountability mechanisms included a focus on inputs and processes, a lack of systematic use, and inconsistent data definitions impeding inter-institutional comparisons (AECD, 1995a). The 1993 discussion paper subsequently laid out a framework for improved accountability:

Many results are expected from the post-secondary system. Taken together, success in the areas identified below will lead to achieving accessibility, affordability and responsiveness. The results listed refer primarily to expectations of post-secondary institutions receiving annual operating grants from Advanced Education and Career Development. The department believes that these expectations are consistent with those of institutions and the broader public, including students, employers and taxpayers. We have grouped expected results under five headings:

A. **Learning** is the main objective of Alberta's system of post-secondary education. Learning, in terms of the skills and knowledge that students acquire, is central to the programs, services and activities of institutions.
B. **University research** is another key function of the post-secondary system that is intricately linked to learning in terms of the creation and dissemination of knowledge. While we acknowledge that other types of institutions perform research, universities through the *Universities Act* are the only post-secondary instiutions that have responsibility for basic and applied research as a part of their mandate. Research in other types of institutions is generally applied and involves work with industry and community groups.

C. **Community service** is a function of all types of institutions and refers to the role of institutions and the post-secondary system in contributing to the communities they serve.
D. **Fiscal management** refers to the degree of effectiveness and efficiency in the allocation and use of resources at the institutional level.
E. **System accountability** is a category that recognizes that the government has a responsibility to be accountable for certain policy matters and coordination of the system as a whole. Expectations of the department and the public post-secondary system are included under system accountability. System accountability encompasses fiscal management on a system-wide level as well. System accountability also deals with responsibilities that cut across individual institutions or programs. Improving transferability is one example of such an issue (AECD, 1993, pp. 7–8).

This framework is expanded upon substantially:

A. Learning
   1. There is fair and equitable access to programs.
      - Opportunities exist for all groups in society to participate in post-secondary education.
      - Institutions meet demands for lifelong learning opportunities of adults in the institutions' service areas.
      - There is flexibility in the location and scheduling of program offerings so that part-time learners can access and complete programs (e.g., residency requirements do not create unnecessary barriers for students).
      - Quotas or other limits on program admission are justifiable.
      - Courses are readily transferable to programs with related subject content at other institutions.
      - Mid-stream entry opportunities are provided to students who have received educational credentials from elsewhere (outside of Alberta or Canada) and need additional courses to meet licensing and employment requirements.
   2. There is effective and efficient student progress through programs.
      - Admission procedures and standards optimize the likelihood of student completion and success.
      - The program maintains appropriate standards of achievement for students being allowed to continue in the program.
      - A satisfactory proportion of those who start the program complete it.
      - Full-time students complete the program in close to the nominal length of the program.
      - There is recognition of learning and competencies that have been acquired outside the program (e.g., previous coursework, credentials or relevant experience is credited).
      - Institutions schedule required courses to facilitate timely student progress through programs.
   3. Students achieve their objectives.
      - Graduates are satisfied with and benefit from the education or training they have received.
      - Graduates report that the program has prepared them for their career or subsequent educational activities.

- Graduates of career, professional and training programs find employment related to their education or training.
- Students' credentials are respected by other programs, institutions and employers.

4. Programs are relevant to the needs of employers.
   - Employers are satisfied with the quality and skills of graduates.
   - Employers have a mechanism to communicate their needs to educational institutions.
   - Programs are responsive to labour market needs.
   - Technical training is current with respect to the technology being used by employers.
5. The effectiveness and quality of program institution is enhanced.
   - Curriculum is current.
   - Mechanisms are in place to enhance the teaching skills of instructional staff.
   - Mechanisms are in place to measure and reward excellent teaching and curriculum development.

B. University research
   1. Research contributes to the training of highly qualified manpower.
      - Sufficient numbers of masters, doctoral and post-doctoral graduates are trained in areas that meet labour market needs (given specialization and quality considerations this may involve responding to national requirements in certain areas).
      - Advanced training (skills and knowledge) is relevant to current skill requirements of employment.
      - The reputation of the university/department is considered to be of high quality by relevant peers, academic/professional bodies and employers.
   2. Research contributes to social, cultural and economic development through the development of new knowledge and technologies.
      - The university/department has a high success rate in peer-adjudicated research awards (i.e., federal granting councils).
      - The level of funding from federal and provincial departments and agencies, business and other agencies is comparable to other, similar universities.
      - The incidence of research honors held by faculty is at least as great as those at comparable universities.
      - The incidence of awards to students in national and international competition is at least as great as those at comparable universities.
      - Funders are satisfied with the research findings.
   3. Research results are sufficient diffused.
      - Faculty publish research results in reputable refereed journals.
      - Faculty are actively involved in disseminating research results through other means such as presentations and conferences.
      - Research is adapted to practical uses in industry.

C. Community service
   1. Staff are involved in and make a positive contribution to their communities.
      - Policies are in place that allow for or encourage community service by individual faculty or staff members, by units of the institution, or by the entire institution.
      - The institutional staff serve on committees or organizations in the community.

- The institution donates time and resources to community activities (e.g., holds career days for local high school students, contributes knowledge and expertise to local issues).
- There is some form of objective assessment for measuring the type and level of community service provided by staff.

2. Facilities are reasonably available for community use.
   - policies are in place that allow for or encourage community use of facilities.
   - there is a satisfactory level of community use of facilities by the public and by local business and organizations (e.g., theater, gymnasia, pools, classrooms).
3. The public perceive the post-secondary system as making a valuable contribution to the community.
   - local leaders are satisfied with the social and economic benefits that the institution(s)/post-secondary system has made to the community.
   - The general public is satisfied that the institution(s)/post-secondary system is doing a good job of serving the community.

D. Fiscal management
1. Resources are used efficiently.
   - The programs provided by the institution operate at or near capacity.
   - Unit costs of programs are comparable to costs of similar programs at other institutions of comparable size and function.
   - Collaborative arrangements and/or innovative (e.g., distance education, computer-assisted learning) forms of program delivery are used when appropriate to lower net costs of programs and/or increase access.
   - Faculty are assigned an appropriate teaching load.
   - University departments can demonstrate evidence of research productivity by faculty members that is consistent with their workload in the research area.
   - Classroom space and other capital resources are well used.
2. The department and institutions demonstrate institutional revenues are adequate and appropriate for the programs and services offered.
   - Total revenues per student (and the components such as provincial grants per student, tuition fee revenue per student) are comparable to institutions offering a similar level and range of programming. (Traditionally based on FTE and classroom-based institutions, indicators are needed for delivery methods other than classroom-based instruction.)
   - Changes in revenues over time correspond to changes in enrollment, programming or operating efficiencies.
   - Costs of non base–funded programs are covered by the institutions' alternate sources of funding (e.g., alumni, endowments, private-sector funding, cost-recovery tuition.)
   - Programs are reviewed regularly to reaffirm a program's priority for continued funding or to target the program for possible modifications such as brokering to another institution, reduction or closure.
3. Institutions demonstrate that revenues are allocated appropriately toward, and expended efficiently within, the various operational functions and objects of expenditure.
   - The overall balance of expenditure by function (e.g., administrative, instructional, research) and object expenditure (e.g., salaries, benefits,

supplies and services) is appropriate for the size and type of institution, and for the range of programs and services offered.
- Changes over time in the balance of expenditure by function correspond to changes in the size of the institution (e.g., enrollment increase) and/or in the range of programs and services offered.
- Administrative costs per student are as low as those at comparable institutions.
- Direct and total institutional expenditures for instruction per student are as low as those at comparable institutions.
- Clear expectations and measures exist for faculty workloads in terms of teaching, administrative duties, community service and, in the case of universities, research.
- The allocation of resources by the university/department/unit to support research is appropriate given total resources available, and is comparable to similar institutions.
- Library and learning resource materials are adequate to the subject areas offered and the capacity of the institution.

E. System accountability in the public post-secondary system
1. The existence of programs and structures can be justified in terms of their relative costs and benefits.
   - There is a sufficient level of demand for programs and justifications for structures (which includes departments, faculties and institutions).
   - There is no unjustifiable duplication of programs.
   - Program capacity and structures are rationalized on a regional and province-wide basis as appropriate.
   - The various components of the post-secondary system have adequate mission statements that clearly state their objectives, and these are clearly communicated to their communities.
   - Programs and services provided are consistent with the mandate of publicly funded post-secondary education and training and complement services offered by the private sector.
2. Funding of the post-secondary education system is adequate to achieve agreed upon objectives.
   - Expenditures per full-time equivalent student are comparable to other jurisdictions with similar post-secondary systems.
   - Procedures are in place to monitor the effective use of provincial funds.
   - An appropriate level of funding is provided for capital replacement and maintenance.
   - The system is seen by the public as stakeholders to be providing a reasonable level and range of programs and services.
   - The system is seen to be producing an adequate number and mix of graduates to meet economic and social needs of the province.
3. Financial barriers to access are minimized through the availability and adequacy of financial aid to students.
   - Student participation reflects the general composition of Alberta society.
   - Students receiving financial aid complete their studies at the same rate as those not receiving funding.
   - Funding issues are not a factor in cases where students fail to complete their program of studies.
   - Students who receive financial aid repay their loans.

4. Procedures are in place to monitor enrollment demand and to enhance capacity to meet demand.
   - Changing population structures, economic and labour market trends, and post-secondary participation patterns are monitored to assess implications for enrollment demand.
   - Expected increases or decreases in the level of enrollment demand are communicated to institutions and throughout the system.
   - On a system level, efforts are made to accommodate demand from qualified applicants.
   - Student enrollment data are collected and used based on provincial standards.
5. Mechanisms are in place to enhance the transferability of courses, credits and knowledge among programs and institutions..
   - Standards are consistent for the curriculum of province-wide programs.
   - Competencies in terms of the skills and knowledge to be acquired in programs are identified.
   - Program prerequisites are confined to competencies required for success in the program and do not contain artificial barriers to entrance.
   - Mechanisms exist for the recognition of prior course work and experience (AECD, 1993, pp. 9–16).

A February 1995 paper (AECD, 1995a) outlined progress towards on improving the post-secondary accountability reporting framework that included:

- developing a system-wide approach to gathering information on costs, outputs, and outcomes that will allow for valid comparisons between institutions;
- developing a common set of definitions for the underlying data elements and information reporting requirements to ensure consistency;
- developing a set of key indicators which will reflect critical performance areas focused on the results of adult learning;
- ensuring that certain indicators are collected at the major program level for the information of prospective students and for comparison between institutions;
- ensuring that key performance indicators are collected systematically across similar institutions and reported at the same time; and
- developing over time a set of benchmarks or typical performance data against which the performance of specific programs or institutions can be measured and decisions made about the need for improvements, some of the benchmarks will be national or extra-provincial in nature (AECD, 1995a, p. 6).

The Information Reporting Exchange Project was initiated to establish data definitions for reporting performance indicators (AECD, 1996a). A series of 22 key performance indicators for accountability purposes were established in consultation with institutions (AECD, 1996e, 1996f). As summarized by CAFA (1999), these indicators include:

1. *Access indicators (enrollment and instructional loads)*
   - full-time student annual headcount (credit programs)
   - part-time student annual headcount (credit programs)
   - full-load equivalent enrollment (credit programs)
   - student contact hours (credit programs)
   - annual student headcount (non-credit instruction)
   - course and program registrations (non-credit instruction)
2. *Program completion*
   - For colleges and technical institutes, program completion rate is the proportion of an entry cohort (expressed as a percentage) who complete a one-year or shorter program within two years, or a two-year or longer program within three years.
   - For universities and private university-colleges, the rate is the proportion of students, adjusted for freshmen not returning in the year following entry, who proceed to successfully complete an undergraduate degree or diploma program within a period ending three years after the earliest year in which a student with a full annual program would normally be expected to complete the program.
3. *Freshman student persistence*—Measure of persistence for students new to the first year of undergraduate programs at a university or private university-college measured:
   - Attrition between September 30 and December 1 is determined and a first session retention rate calculated.
   - The number of students returning the following year is determined and a first-to-second year retention rate is calculated.
   - First-year leavers are categorized as those required to withdraw, those who transferred to other Alberta post-secondary institutions, and others not returning.
4. *University transfer program leavers*—This measure is to provide information about the performance of university transfer programs at the 7 public colleges which offer them.
5. *Transfer student performance*—This indicator measures how students who begin their studies in a UT program at a public college subsequently perform at a university by measuring the number who are successful in their first year following transfer to a university program.

6. *Transferability of courses*—Information provided through the *Transfer Guide* published by the Alberta Council on Admissions and Transfer is analyzed to provide quantitative indicators of the extent of transferability of courses and multi-course transfer arrangements among Alberta colleges, technical institutes, universities and private university-colleges. The indicators apply to colleges and technical institutes as "sending" institutions.
7. *Graduating student satisfaction*—Satisfaction indicators are compiled from the results of surveys of students who are about to graduate from each Alberta post-secondary institution to determine the satisfaction with, and self-reported benefits from, the education received.
8. *Graduate employment and academic outcomes*—This information set determines the extent to which graduates of career, professional, training and general programs find employment related to their education and training within a reasonable period of time, pursue post-graduate objectives or have intentions to do so. Graduates of college and technical institute programs are surveyed six to nine months after graduation; those of universities and private university-colleges are surveyed two years after.
9. *Demand and capacity*—These measures quantify the number of qualified applicants to colleges and technical institutes for credential programs as a percentage of entry places available. This is further broken down by number of applications and applicants to one institution only, to more than one institution but only one type of program, and too more than one type of program. The Alberta Council on Admissions and Transfer maintains an on-going duplicate application detection project.
10. *Instructional process and faculty load indicators*—These indicators assess instructional context, instructional load of teaching units and the average teaching loads of faculty members. This indicator addresses what faculty members do, how their time is distributed across primary functions, how these volumes relate to the availability of instructional staff and particularly the availability of continuing academic staff. Measures include:
    - student contact hours per FTE faculty (college and technical institutes only)
    - percentage of faculty time spent on instruction, research and community service
    - headcounts for: total undergraduate and graduate enrollment, total course section registrations

- proportion of course registrations taught by continuing academic staff, section registrations per FTE teaching staff and average section size.

11. *Program costs*—These are measures of the unit costs of programming hat measures average cost per full-load equivalent enrollment (all institutions), and average cost per student contact hour (colleges and technical institutes only).
12. *Cost per graduate (program completer)*—The average cost per graduate (program completer) is a measure of unit costs used to indicate that resources are used efficiently and are comparable to those for similar programs at other institutions of similar size, location and function.
13. *Space utilization*—This indicator provides general measures of the intensity of utilization of classroom and class laboratory facilities for credit instruction, non-credit activities and community services. Indicators apply to: average classroom hours per week, average class laboratory hours per week, average classroom hours as a percentage of 50, average class laboratory hours as a percentage of 40.
14. *Revenue-related indicators*—The following revenue-related indicators will be reported at the institutional level:
    - AECD grants per FLE enrolment
    - AECD grants as a percentage of total operations revenues
    - tuition fees per FLE enrolment
    - other revenues per FLE enrollment
    - enterprise revenues as a percentage of AECD grants
15. *Expenditure-related indicators*—The following expenditure-related indicators will be reported at the institutional level:
    - instructional expenditures as a percentage of total operations expenditures
    - the total of academic support and student services expenditures as a percentage of total operations expenditures
    - institutional support (administration) expenditures as a percentage of total adjusted expenditures
16. *Research intensity*—This measures the intensity of research in relation to the total sphere of institutional activities. It is the ratio relating revenues for sponsored research activities to provincial operating grant support. Data will be obtained to calculate three-year rolling averages for each Alberta university (excluding Athabasca University) and the "peer group" comparisons with similar Canadian institutions.

17. *Research (publications and other creative works)*—This is a measure of citation impact of research papers produced by university faculty members. The citation impact indicator is expressed as the ratio of: number of citations received to number of publications reported. The following data provide context for this indicator: number of full-time academic staff, number of papers cited, percentage of papers cited. Data will be obtained to calculate five-year rolling averages for the University of Alberta, the University of Calgary and the University of Lethbridge and for "peer group" comparisons with similar Canadian institutions.
18. *Research council success rates*—Two indicators are applied at the institutional level:
    - number of grant awards from the federal research councils in relation to the number of applications made to these councils
    - average dollar value of award received
19. *Research (graduate students)*—These are the indicators:
    - graduate student enrolment in thesis (research) based programs relative to the number of full-time academic staff
    - total graduate enrolment per full-time academic staff
    - number of competitive national graduate scholarships and fellowships relative to the number of full-time academic staff
20. *Research (research impact)*—Five indicators are used to assess the impact of research:
    - "council support" ratio relating revenues from the three national granting councils to total sponsored university revenues
    - "community and industry support" ratios which relate revenues for research of an applied nature to total sponsored university research revenues; and to total full-time academic staff
    - "industry sponsored research" ratio which relates industry sponsored research support to community and industry support
    - total annual licensing revenues
    - disclosures of inventions or other commercially valuable intellectual property
21. *Research (distance education)*—Athabasca University is developing a special indicator for research relating to distance education.

22. *Community service and economic impact*—The impact of an educational institution in its local economy can be estimated using a model which estimates the total local income (gross domestic product) produced by the institution's spending in the local community and the total local employment generated.

An annual report by the Minister of Advanced Education and Career Development on the "status and health of Alberta's post-secondary system, as described by the KPIs," was planned for early 1997/98 (AECD, 1996a, p. 4). Some data from the accountability reporting framework performance indicators is used in the ministry's business plan and annual report.

4.4.1.4 Linking the accountability framework with performance-based funding—A 1995 discussion paper on Alberta's accountability reporting framework noted:

> Over the next year, the department will be developing a formula for funding public institutions. The institutions have already been asked for their ideas. This formula will recognize performance, and it is likely that some of the measures identified in this paper will be included in the formula (AECD, 1995a, p. 10).

A subsequent 1995 discussion paper stated:

> The purpose of this envelope would be to reward performance in our public post-secondary system. The definition of performance and the standards used to measure it could change over time and perhaps by sector. Alberta's public post-secondary institutions have always had to account for their use of public funds. However, the traditional measures have tended to focus on inputs rather than results. As a result of the government's new emphasis on accounting for performance and achievement, the Minister and administrators of Alberta's public colleges, technical institutions and universities are developing a set of accountability measures. These measures, known as key performance indicators, will cover such areas as program and student outcomes, research and costs. These key performance indicators, or some combination of them, would be used to measure the performance of each institution and help determine funding from a performance envelope (AECD, 1995d, pp. 8–9).

As is evident below, the performance indicators driving performance-based funding are drawn directly from the accountability reporting framework KPIs or are derived from data used to generate the framework's indicators.

4.4.2 Performance-based funding in Alberta

One of *New direction's* strategies was to develop a new funding mechanism which linked funding to performance. Section 4.4.2.1 outlines government policy statements regarding performance-based funding in Alberta. Section 4.4.2.2 discusses how performance-based funding is allocated. Section 4.4.2.3 outlines the indicators used to allocate performance-based funding. Section 4.4.2.4 outlines some of the preliminary results of implementing performance-based funding.

4.4.2.1 *Developing performance-based* funding— A performance-based funding mechanism was developed in tandem with the accountability reporting framework to annually distribute $15 million from the Performance Envelope (see Section 4.3.3.8 above). According to *New directions*, the department and institutions were to:

> (e)stablish a new funding mechanism to reward performance and productivity in publicly supported post-secondary education.
>
> The department will provide funding to post-secondary institutions through a new mechanism that rewards an institution's performance in providing accessibility, quality and relevance to the needs of the learner at the lowest possible cost. The funding mechanism will be implemented in the 1996/97 fiscal year.
>
> The department will consult with learners and providers of learning opportunities to develop a mechanism based on service and benefits to the learner. As part of the development of this mechanism, expected results must be determined, indicators of performance developed, and performance data defined and collected. The department has initiated projects to develop common information reporting requirements and definitions in cooperation with the institutions, and to develop performance measures at the program level (AECD, 1994a, p. 15).

The discussion paper *A proposed performance-based funding mechanism for Alberta's public post-secondary system* notes:

> Our challenge now is to select a combination of funding methods, techniques and features that
> - support the desired outputs and outcomes of our post-secondary system,
> - rewards institutions' performance, and
> - is consistent with the government's fiscal agenda for a balanced budget (AECD, 1995d, p. 5).

As a result of consultations with stakeholders, the government proposed two ways of resource allocation: (1) a general operations grant to fund program delivery, administration and capital requirements; and (2) performance driven "envelopes of

funds that reward performance and assist and act as incentives for the adult learning system to meet specific objectives" (AECD, 1995d). These envelopes are described in Section 4.3.3. above and include incentive funding and performance-based funding (see Section 3.2.1 for descriptions of various forms of resource allocation)

An initial brief on funding methods options (AECD, 1995b) was circulated and resulted in the following guiding principles of performance-based funding (AECD, 1995d, p. 3):

Quality: It should encourage excellence and support outcomes and results that are effective in meeting learners' needs. Both quantitative and qualitative measures should be used in planning for and measuring outcomes.
Productivity: It should support and provide incentives for the achievement of policy objectives, desired outcomes and improvements in performance.
Equity: It should allocate funds in a fair manner, taking into account the differences in institutions such as their mission, mandate, programs, sizes and locations.
Practicality: It should be understandable by stakeholders and other Albertans. Technical complexity should be avoided and the administrative costs of this mechanism should be low.
Consistency: It should employ measures that can be used in a fair, consistent and comparable manner throughout the post-secondary system.
Adaptability: It should be able to meet the changing circumstances and be effective in periods of funding stability, growth or reduction. There should be a process or provision for periodic review of the mechanism to ensure it applies to the environment and the time.
Stability: It should moderate fluctuations in funding to ensure that the system continues to be able to meet learner needs.
Predictability: It should encourage planning that is consistent with system goals and the department's business plan. In addition, learners and institutions should be given sufficient lead time to deal with the intended changes.

A June 1996 discussion paper proposed a performance-based funding mechanism (AECD, 1996a). Further refinement of the mechanism resulted in a two-year pilot with the first performance rewards being made in July 1997 (AECD, 1997h).

4.4.2.2 *How performance-based funding is allocated*—Performance-based funding in Alberta is awarded based upon institutional performance of nine of the accountability reporting framework's indicators (AECD, 1997h): five indicators are used by all institutions (the learning component) while four indicators are for research universities only (the research component).

An institution's performance is assessed by taking its numeric score on an indicator (e.g., percentage of graduates employed) and plotting it on a linear scale (e.g., 0–100%). Benchmarks divide the linear scale into a series of performance corridors (e.g., 60–69%, 70–79%, 80–89%, >89%); all institutions falling within a corridor are assigned the same number of points for that indicator. The points assigned for performance on each of the five learning-component indicators are tallied and that score constitutes overall performance for funding award purposes (AECD, 1996a). Research universities engage in a similar process with the research component indicators. University research is weighted based upon the amount of institutional funding that is directed at research. The structure of the indicators is outlined in Figures 4.1. and 4.2 .

Each institution's data is drawn from its four largest program clusters. The level of aggregation at which performance indicators are compared reflects a compromise. Comparing performance at the level of program (e.g., undergraduate political science programs) is problematic because of small sample sizes, variation in program methods and nature of programs, and annual variations (AECD, 1996a). Comparing clusters of programs (e.g., all undergraduate arts and science programs) eliminates these concerns at the cost of specificity. Institutions are assessed based upon their four largest programs with the highest enrollments (AECD, 1996b). Scores are additive (i.e., represent the weighted sum of the individual benchmarks determined at the program level).

4.4.2.3 *Alberta's performance indicators*—Performance-based funding is allocated on the basis of institutions' scores on a series of performance indicators. All institutions are assessed on five indicators (the learning component, see Figure 4.1) and research universities are assessed on an additional four indicators (the research component, see Figure 4.2).

The learning component's five indicators are broken down into three categories based upon *New direction's* key goals of responsiveness, accessibility and affordability (AECD, 1994a, 1997h). Institutional *responsiveness* to the needs of learners and to provincial social, economic and cultural needs is assessed by examining the employment rates of graduates and graduates' satisfaction with the quality of their

Figure 4.1 Alberta's PBFM learning component indicators (AECD, 1997h)

Employment rate: Percentage of graduate-survey respondents employed with a specified period following program completion.

Points:	0	15	20	25	30
Benchmarks:	60%	70%	80%	90%	

Graduate satisfaction with overall quality: Percentage of graduate-survey respondents fully/somewhat satisfied with overall educational quality.

Points:	0	15	20	25	30
Benchmarks:	70%	80%	90%	95%	

Credit FLE: Percentage change in full-load equivalent enrollment from one period to the next.

Points:		0	20	25	30
Benchmarks:	Urban	-2%	0%	+4%	
	Rural	-5%	0%	+4%	

Administrative expenditures: Administration as a percentage of total expenditures less ancillary expenditures.

Points:		0	3	4	5
Benchmarks:	> 3500 students		11%	7%	5%
	≤ 3500 students	12%	8%	6%	

Enterprise revenue: Revenues less all government grants, tuition fees under policy, sponsored research (universities only), ancillary services and earned capital contributions as a percentage of Advanced Education and Career Development grants.

Points:		1	3	4	5
Benchmarks:	Urban	20%	35%	50%	
	Rural	10%	25%	40%	

educational experience. Institutional progress towards higher levels of *accessibility* (i.e., increasing the number of student spaces) is indicated by examining changes in full-load equivalent (FLE) enrollment based on a three-year rolling average. This indicator is adjusted for institutional location and recognizes that urban institutions have historically been better able to maintain stable enrollments because of a larger population base (AECD, 1996a). Institutions' success at maintaining *affordability* (i.e., providing quality learning opportunities to the greatest number of Albertans at a reasonable cost to the learner and taxpayer) is indicated by examining administrative expenditures and outside revenue generated. More specifically:

Credit Full-Load Equivalent (FLE) Enrollment—Credit full-load equivalent is a unit for counting students in which the equivalent of one full course load in an academic year is said to be one FLE. An annul count combines full and partial load students. It is a measure of the volume of programming delivered.

Graduate Satisfaction—All students who completed a program were surveyed. the proportion of respondents who indicated that they were "somewhat" or "fully" satisfied with the quality of their programs is being used. Identical questions were used for the colleges and technical institutes. The survey instrument used for the universities varied from that used by the colleges and technical institutes. However, universities are compared against the same benchmark. An adjustment factor has been applied to account for the statistical significance of the sample size and provide the same confidence level.

Employment Rate—Identifies the proportion of graduate follow-up respondents (6 months after graduation for colleges; 2 years for universities) that are employed. The employment survey for the universities was completed by the Population Research Lab. An adjustment factor has been applied to account for the statistical significance of the sample size and provide the same confidence level.

Administration Expenditures—Represents the proportion of expenditures allocated to institutional administration which includes, Board, President, vice - presidents and general administration and planning. This is expressed as a percentage of total expenditures less expenditures on ancillary activities. The administration expenditures are netted by the "chargebacks" for supplies and service applicable to non-credit and ancillary services.

Enterprise Revenue—Total revenue less government grants, tuition as per the tuition fee policy, ancillary revenue and deferred capital contribution. This is expressed as a proportion of the government grant. This indicator is meant to capture the degree of "leverage" an institution has established through its operations grant by raising revenue from alternative sources. (For universities this does not include sponsored research revenues). This includes revenues generated from non-credit activities (AECD, 1997m, p. 1).

The research component has four indicators (AECD, 1997b). Council success rates identifies national granting council awards (MRC, NSERC and SSHRC) per full-time faculty member. This is done for peer institutions across Canada. Citation impact is the expressed ratio of citations to published papers. The Institute for Scientific Information produces a database of summary publications and citation statistics that reflect research performance in the sciences and social sciences for Canadian universities. This database includes citations for 6000 peer-reviewed journals. Community- and industry-sponsored research per full-time faculty member is

---

Figure 4.2 Alberta's PBFM research component indicators (AECD, 1997h)

Council monetary awards: National peer group rank in terms of council awards per full-time faculty member.

Points for achievement:	0	17	25
Points for improvement:	0	10	15
Benchmarks:	Bottom third	Second third	Top third

Citation impact: National peer group rank in terms of number of citation per research publication.

Points for achievement:	0	17	25
Points for improvement:	0	10	15
Benchmarks:	Bottom third	Second third	Top third

Community and industry support: National peer group rank in terms of community and industrial funding for sponsored research per full-time faculty member.

Points:	0	17	25
Benchmarks:	Bottom third	Second third	Top third

Research enterprise: National peer group rank in terms of sponsored research revenues as a percent of AECD grants.

Points:	0	3	5
Benchmarks:	Bottom third	Second third	Top third

---

derived from Statistics Canada and the Canadian Association for University Business Officers data. Research enterprise is the total sponsored research revenues generated and is expressed a proportion of the government grant. This indicator is meant to capture the degree of "leverage" an institution has established through its operations grant by raising research funding.

More specifically:

> **Council Success rates**— identifies national granting council awards (MRC NSERC and SSHRC) and per full time faculty member. This is done for peer institutions across Canada.
>
> **Citation Impact**—The Citation Impact is expressed as the ratio of citations to published papers. The Institute for Scientific Information (ISI) produces a database of summary publications and citation statistics that reflect research performance in the sciences and social sciences for Canadian universities. The database includes citations for 6000 peer reviewed journals.
>
> **Community and Industrial Research**—Community and Industry sponsored research per full-time faculty member. This data has been derived from Statistics Canada and the Canadian Association of University Business Officers (CAUBO).
>
> **Research Enterprise**—Total sponsored research revenues generated. This is expressed as a proportion of the government grant. This indicator is meant to capture the degree of "leverage" an institution has established through its operations grant by raising research (AECD, 1997m, pp. 1–2).

Following the 1997 performance awards, the government noted that

> Albertans view quality as their number one priority for education. For that reason, it received the greatest weighting in determining the performance awards. In the learning component, quality is judged by the ability of institutions to respond to the expectations of learners. Sixty of the 100 points available are assigned to graduate satisfaction and the employment rate of graduates.(AECD, 1997h, p. 6).

4.4.2.4 *Preliminary results*—During the two-year pilot, $15 million was allocated annually from the Performance Envelope. In 1997, this money was distributed in two ways. First, each institution received a system-wide award of 1.5% of its operating grant to reward system-wide improvements in productivity. This allocation was explained as follows:

> To recognize overall success of Alberta's adult learning system, all institutions have been awarded a system performance award of net 1% of their basic operating grants (the gross award was 1.5% less a .5% contribution from each institution into the Performance Envelope.) This system award has already been distributed to institutions.
>
> Seventeen institutions receive an additional 1.5% of .75% based upon their superior progress towards system-wide goals. The actual dollar amount vary by institution, depending on the amount of each institution's operating grant (AECD, 1997n, p. 2).

Second, institutions were rewarded based upon their performance: 8 (of 21) institutions received an additional award of 1.5% based upon their performance, 9 institutions received an additional .75% and four institutions received no performance based funding (AECD, 1997h). The percent of operating grants received as a performance award in 1998 decreased slightly (to 1.26% and .63%) because, while institutional performance improved, the total funding for performance awards available remained fixed at $15 million (AECD, 1998g). These awards accumulate over time (i.e., are added to institutions' revenues the next year) (Treasury, 1998).

Analysis of the first two years of operation suggest that institutional awards are highly correlated (.95) with performance on the Credit FLE indicator (Barnetson, 1999). This in part reflects that the graduate satisfaction and employment surveys results from 1997 were re-used for the 1998 allocations. Institutions that increase their enrollment receive the highest levels of reward. This belies the fact is that the performance award fails to fully compensate institutions for this additional enrollment, thereby further driving down per-student government funding levels. This difference has to be made up through efficiency gains, increasing revenue generation, or decreasing the quality of course offerings.

4.4.2.5 Revising performance-based funding in Alberta—Following the 1998 performance awards, the government reviewed the performance-based funding mechanism. Some of the feedback government received included:

- Institutions indicated that the current model of the envelope encourages competition among institutions especially for students. There is need for a performance indicator of collaboration across the system, particularly in the context of the Campus Alberta vision. Institution suggestions include collaborative research, the number of brokered programs, enrolment in brokered programs, the number of courses accepted for credit transfer, the number of

transfer programs, enrollment in transfer programs, the number of transfer agreements and the number of facilitation arrangements and related enrolment.

- Performance of an institution on credit FLE enrolment has had a dominating impact on its score and progress award allocation, specifically in relation to the Accessibility goal. The Accessibility score was solely determined by enrolment change. Even so, credit FLE has not reflected the full range of learners served by the system. In addition, some institutions felt penalized for lower enrolment levels, in comparison with expansion peaks encouraged/supported by governments, particularly as the declines are normally associated with economic conditions outside their control.
- Institution support for the inclusion of a completion rate indicator varied across the system. Supporters saw it as an important measure of outcomes. Others were concerned about the possible negative impact on academic standards and accessibility. They also saw a conflict between measuring completion and the concept of flexible learning and continuous learning (AECD, 1999a, p. 4).

Although the final results have not yet been released, a revised model for allocating funding from the Performance Envelope has been proposed (AECD, 1999a). Beginning the 2000/01 cycle, this model proposes to:

- Reduce the impact of credit FLE growth by including additional indicators of Accessibility and revising the value/weighting of each element as warranted. FLEs funded through the next cycle of the Access Fund would be excluded from the credit FLE count beginning in the 2000-2001 cycle of the Performance Envelope.
- Include new student admissions and graduates (indicators) to complement credit FLE as measures of progress towards meeting the goal of Accessibility.
- Encourage progress towards achievement of the vision of Campus Alberta by including a collaboration indicator and associated measurements beginning in the 2000-2001 cycle of the envelope.
- Encourage progress in responsiveness to industry and employer needs by including an employer satisfaction indicator. The Banister Study of January 1998 would be used in calculating progress awards for 1999-2000. The ministry would be responsible for conducting surveys in the future (AECD, 1999a, p. 1).

The proposed structure of the Performance Envelope is outlined in Figure 4.3. The new indicators include:

New students
Rationale—The number of new students to an institution is a measure of the success of that institution in providing learning opportunities to Albertans. It will reward institutions for accommodating new students, including increases in enrolment which were not funded through the Access Fund.

Proposed Performance Envelope Methodology—The percentage change in new students at an institution in the Fall semester from one period to the next would be calculated. This rate would be used to determine how many points the institution receives toward its Progress Award.

Graduates

Rationale—It is expected institutions will create an environment in which students can complete their studies within a reasonable period. Completion of a program increases the students' ability to enter the workforce and contribute to the economy. It also makes space at institutions available to other students.

Proposed Performance Envelope Methodology—The percentage change in graduates from one period to the next would be calculated. This rate would be used to determine how many points the institution receives towards its Progress Award.

Employer Satisfaction

Rationale—This indicator would measure how well post-secondary programming responds to the needs of employers A proxy of return to the private sector on investment in the post-secondary education, employer satisfaction would complement graduate satisfaction rate, a proxy of return to the learner on investment in post-secondary education, as an indicator of Responsiveness and Relevance.

Proposed Performance Envelope Methodology—This indicator would measure employer satisfaction with graduate's skills and attributes, and/or satisfaction with the overall responsiveness of the public post-secondary system to the needs of employers. The 1998 Banister Survey was not intended to provide analysis of individual institutions or programs. Therefore all institutions would receive the same number of points towards their Progress Award for preparing students for employment. Another survey is being planned in the next 12 months. In future years, system benchmarks could be established as ongoing development of this performance indicator takes place.

Collaboration (beginning in 2000-2001 cycle)

Rationale—A fully coordinated and streamlined post-secondary system, in which individual institutions work together effectively to provide access to learning, would best serve the needs of learners throughout the province. Such collaboration would ensure, among other things, that Albertans would not have to repeat a learning experience successfully completed elsewhere in the province. Alberta posy-secondary institutions are already working together as shown by the many transfer agreements and shared program delivery arrangements among institutions. Collaboration among institutions is central to the vision of Campus Alberta.

Proposed Performance Envelope Methodology—Additional work on developing this indicator and its associated measures would be done prior to the 2000-2001 cycle of the envelope. Both quantitative and qualitative measures would be considered. Potential measures of collaboration include:

- number of transfer agreements
- number of brokerage agreements
- enrolment in brokered programs; percentage of an institution's enrolment in brokered programs
- number collaborative agreements

- enrolment in collaborative programs; percentage of an institution's enrolment in collaborative programs
- number of facilitation arrangements
- enrolment in facilitated programs; percentage of an institution's enrolment in facilitated programs
- collaborative research (AECD, 1999a, pp. 10–11).

As this information comes from a discussion paper, it should be considered tentative.

Figure 4.3 Proposed structure of the Performance Envelope beginning 2000/01.

System Goal	Value	KPIs	Points
Learning Component			
Accessibility	25 (30)	Credit FLE	15 (30)
		New students	5 (new)
		Graduates	5 (new)
Responsiveness	60 (60)	Graduate employment rate	25 (30)
		Graduate satisfaction rate	25 (30)
		Employer satisfaction rate	10 (new)
Affordability	15 (10)	Administration expenditures	5 (5)
		Enterprise revenue	10 (5)
Collaboration	20 (new)	Undetermined indicator(s) beginning 2000-2001	20 (new)
Total	120 (100)		
Research component			
	40 (40)	Council monetary awards	40 (40)
	40 (40)	Citation impact	40 (40)
	25 (25)	Community & Industry support	25 (25)
	5 (5)	Research Enterprise	5 (5)
Total	110 (110)		
NOTE:	Numbers in brackets represent indicators value during the 1997-1998 pilot program.		

4.4.3 Summary

The development of an accountability reporting framework and performance-based funding in Alberta's post-secondary system is consistent with the new approach to governance outlined in Section 4.2 above. The accountability reporting framework makes system-wide and institutional levels of goal attainment clearly evident and is part of the new (contract-based) approach to accountability between agencies and the relevant Minister. The development and implementation of performance-based funding is consistent with *New direction's* mandate to develop a new funding mechanism that relates institutional performance to funding. This approach is consistent with the methods of the New Public Management.

4.4 Summary

The chapter outlined the substantial changes that have occurred in Alberta's public sector with specific attention to the advanced education policy community and the issue of performance-based funding. One of the major themes that emerged is that Alberta's public sector has been reformed to make it more consistent with the principles of the New Public Management through the introduction of business plan, performance measures and reporting requirements. Higher education policy has also shifted and higher education is increasingly discussed in terms of labour market training and as a source of knowledge and technology that can be transferred to the private sector. This agenda is being advanced partly through changes in resource allocations including declining block grants, increasing use of funding envelopes and pressuring institutions to rely upon non-government source of revenue. Alberta's accountability reporting framework and performance-based funding mechanism are outcomes of these changes. The evidence provided in this chapter will be used in Chapter Five to test the various hypotheses about the goals Alberta's government had for implementing performance-based funding.

CHAPTER FIVE

Analysis

This chapter analyzes the case presented in Chapter Four to determine which of the six hypotheses about why Alberta's government implemented performance-based funding are supported. These six hypotheses are:

1. Performance-based funding has been introduced because it will increase institutional accountability to government.
2. Performance-based funding has been introduced because it will increase institutional responsiveness to governmental goals.
3. Performance-based funding has been introduced because it will increase institutional productivity.
4. Performance-based funding has been introduced because it is a politically feasible means of increasing government transfers to institutions.
5. Performance-based funding has been introduced because it facilitates the introduction of a broader policy agenda.
6. Performance-based funding has been introduced because it legitimates the introduction of a broader policy agenda.

Section 5.1 outlines the evidence that performance-based funding has been implemented to increase institutional accountability to government. The evidence that performance-based funding has been implemented to increase institutional responsiveness to governmental goals evaluated in Section 5.2. Section 5.3 examines the evidence to determine if performance-based funding has been introduced to increase institutional productivity. Section 5.4 assesses the evidence that performance-based funding has be introduced as a politically feasible way for government to increase its transfers to institutions. Section 5.5 discusses the evidence that performance-based funding has been introduced to facilitate the introduction of a broader policy agenda. Finally, Section 5.6 explores the evidence that performance-based funding has been implemented to legitimate the introduction of a broader policy agenda. Section 5.7 summarizes this chapter.

5.1 Performance-based funding and institutional accountability

The section explores the evidence that Alberta has implemented performance-based funding to increase institutional accountability to government. Section 5.1.1 presents the theorized pattern of evidence expected to exist if this hypothesis is true. Section 5.1.2 outlines the relevant evidence presented in the case study. Section 5.1.3 assesses that evidence to determine if it supports the hypothesis. Section 5.1.4 assesses the plausibility of the conclusion.

5.1.1 Theorized pattern of evidence

If Alberta's government implemented performance-based funding in order to increase institutional accountability to government, we would expect:

- The rationale for implementation to include discussion of how existing accountability mechanisms are inadequate.
- An increase in institutional reporting requirements for performances for which they are causally and expectationally responsible.
- No loss of institutional autonomy over major operational decisions although there may be an increase in relative accountability (i.e., an increase in the rate of exchange between accountability and autonomy).

5.1.2 Evidence from the case study

There is substantial evidence that Alberta's government desired an increase in institutional accountability to government. In 1993, a discussion paper *Accountability: Expectations of the public post-secondary system* was the first step in developing Alberta's post-secondary accountability reporting framework (AECD, 1993). This paper subsequently laid out a framework for improved accountability:

> Many results are expected from the post-secondary system. Taken together, success in the areas identified below will lead to achieving accessibility, affordability and responsiveness. The results listed refer primarily to expectations of post-secondary institutions receiving annual operating grants from Advanced Education and Career Development. The department believes that these expectations are consistent with those of institutions and the broader public, including students, employers and taxpayers. We have grouped expected results under five headings:
>
> A. **Learning** is the main objective of Alberta's system of post-secondary education. Learning, in terms of the skills and knowledge that students acquire, is central to the programs, services and activities of institutions.

B. **University research** is another key function of the post-secondary system that is intricately linked to learning in terms of the creation and dissemination of knowledge. While we acknowledge that other types of institutions perform research, universities through the *Universities Act* are the only post-secondary institutions that have responsibility for basic and applied research as a part of their mandate. Research in other types of institutions is generally applied and involves work with industry and community groups.
C. **Community service** is a function of all types of institutions and refers to the role of institutions and the post-secondary system in contributing to the communities they serve.
D. **Fiscal management** refers to the degree of effectiveness and efficiency in the allocation and use of resources at the institutional level.
E. **System accountability** is a category that recognizes that the government has a responsibility to be accountable for certain policy matters and coordination of the system as a whole. Expectations of the department and the public post-secondary system are included under system accountability. System accountability encompasses fiscal management on a system-wide level as well. System accountability also deals with responsibilities that cut across individual institutions or programs. Improving transferability is one example of such an issue (AECD, 1993, pp. 7–8).

According to 1994's *A better way: A plan for securing Alberta's future*, the introduction of business plan and annual reports would result in:

> ...open and accountable government. Business plans, combined with a strong emphasis on results and performance measures, provide a new definition for accountability in government. Demonstrated performance, timely and open reporting, and focusing our efforts on results will be the hallmarks of the business planning process. And most important, Albertans will have the information they need to measure government's performance against clear objectives and high standards (Government of Alberta, 1994, p. ii.)

The draft White Paper *An agenda for change* notes:

> Throughout Round One of our public consultation, Albertans told us the adult learning system must be more responsive to the labour market, to the differing needs of communities and to the changing social and economic environment. In addition, Albertans want the system to be more accountable to its users, with a focus on measuring program outcomes/results. Learners, taxpayers and employers want assurances that adult learning programs and institutions are meeting their objectives. Key performance measures need to be defined and communicated to the public so learners can make informed choices (AECD, 1994b, p. 7).

The draft White Paper specifically mentions developing an accountability reporting framework for post-secondary institutions based upon performance measures:

> The department is committed to working with institutional representatives to develop a comprehensive accountability framework for the publicly supported adult learning system. It will include the following elements:
>
> - an agreed-upon set of expected results for the system;
> - a core set of quantitative and qualitative performance indicators for evaluating success in meeting results; and
> - a mechanism for communicating results to learners and taxpayers.
>
> As an initial step, the department has developed a discussion paper outlining five key areas of accountability: learning; university research; community service; fiscal management; and system accountability (AECD, 1994b, p. 14).

A background document for the White Paper consultation process (AECD, 1994c) elaborates on the need for greater accountability from post-secondary institutions:

> There is widespread public support for higher education and training. However, all publicly funded organizations, including post-secondary institutions and other providers of adult education and training programs and services, are being challenged by government and the public to demonstrate that they are prepared to examine the way in which they are organized and operate, have the capacity to innovate and to respond to the changing needs of the society they serve and deliver high quality services.
>
> In addition, education and training are increasingly viewed as major contributors to economic competitiveness. As a result, post-secondary education and training systems are under pressure from business and industry to anticipate the skill and knowledge requirements of the economy and to produce the appropriate number, type and mix of graduates required by the labour market.
>
> Concern with the role of teaching, the length of time taken by students to complete their programs, failure rates and time to degree in graduate programs, drop out rates and barriers to the transferability of courses and credits between programs and institutions, reflect the larger aim of improving the efficiency and effectiveness of post-secondary education and training (AECD, 1994c, p. 51).

And later:

> Given the heightened pressures for accountability, post-secondary institutions and public training providers can increasingly expect to be asked to develop appropriate performance indicators to help demonstrate that they are meeting their objectives, are willing to innovate in order to be more efficient and effective, and show that they are able to respond to the changing needs of students, the labour market and society. The provincial treasurer has made it clear that performance indicators will be required for a wide range of grant funded programs as part of the budget process (AECD, 1994c, p. 52).

The government's emphasis on accountability figured prominently in the White Paper *New directions for adult learning in Alberta* which had as one of its four goals:

> *Accountability*—The system will increase its accountability to Albertans for the results of publicly funded learning opportunities (AECD, 1994a, p. 7).

One of *New direction's* 22 strategies included the creation of an accountability reporting framework:

> 21. *Accountability:* Require providers to measure and report on performance through an accountability framework to advise Albertans of results achieved in publicly funded learning opportunities (AECD, 1994, p. 17).

Specifically, *New directions* required:

> ...providers to measure and report on performance through an accountability framework to advise Albertans of results achieved in publicly funded learning opportunities.
>
> Albertans require assurances that public funds provided for learning opportunities are well spent. Also, Albertans require current and objective information to assist them in making informed choices about opportunities to learn.
>
> The department is consulting with public post-secondary institutions to develop and implement a framework for ensuring accountability to Albertans for their investment in learning opportunities. The framework will include results expected, and a core set of qualitative and quantitative performance indicators to evaluate an institution's success in meeting those results. These indicators will be published by providers in calendars, annual reports or business plans as appropriate.
>
> The public institutions and the department will develop common definitions of terms indicating performance and the procedures for data collection. Providers will be expected to demonstrate how information from these indicators is used to improve the future quality and availability of learning opportunities.
>
> Existing accountability mechanisms for other sectors within the system, such as licensed private vocational schools, will be evaluated. The results expected within these existing mechanisms will be reconciled with results expected with other sectors in the system as the accountability framework is developed. Comparable indicators of performance across sectors will be developed wherever possible, with the distinctive roles and objectives of each sector being respected.
>
> Performance indicators in the apprenticeship sector, for example, will address standards set by industry. In cooperation with the network of industry advisory committees, the department will use performance indicators to ensure that apprenticeship training is relevant to industry's current and emerging needs.

> Through activities of the Canadian Education Statistics Council, the department will continue to work with other provinces and members of Alberta's adult learning system to develop national performance standards and measures.
>
> The department supports the efforts of international organizations such as the Organization for Economic Cooperation and Development, which are trying to establish comparable international indicators of performance in learning opportunities. To ensure quality in learning opportunities available to Albertans, standards used in our province should meet or exceed the standards of other jurisdictions (AECD, 1994a, pp. 16–17).

A 1995 review of university research in the Alberta echoed earlier discussion of the need to increase accountability:

> People's perceptions about universities and university research are almost as significant as funding in creating a positive environment. If the level of public confidence in universities and university research is low, then public funding will not be readily available.
>
> In my view, the problem of the public's perception of the universities goes beyond a lack of appreciation for the university research function. I feel that much of the current criticism of universities is the result of misunderstandings about the overall education function of the universities. This situation is exacerbated during periods of fiscal constraint and a tighter job market for university graduates.
>
> Therefore, the universities must take a more active role in developing public support. The universities must demonstrate that they are responsive—that they are effectively meeting appropriate labour market needs as well as broader educational needs. And, all of this must be achieved in the context of reduced public funding and increasing demands for accountability.
>
> The universities must address this issue quickly and effectively, by developing plans for transparency, open communications and awareness-raising. In the context of these relative new and, in my view, increasingly serious challenges to the quality of university research in Alberta, I believe it is important for AECD to take on a more active role in support of university research. The department must clarify its role and responsibilities in this area, and let the universities know what the government expects in terms of the quality of the research function and the effectiveness of the research system. To begin, the government must clarify its expectations by identifying the research standards and benchmarks it is setting for universities in this province, in comparison to other Canadian universities (AECD, 1995c, p. 27).

Alberta's 1996 policy framework for research adopted these suggestions and outlined a series of performance indicators to measure research excellence (AECD, 1996g, p. 6).

The end result was the development of 22 key performance indicators (outlined in Section 4.4.1.3). A 1995 discussion paper on Alberta's Performance Envelope noted:

> The purpose of this envelope would be to reward performance in our public post-secondary system. The definition of performance and the standards used to measure it could change over time and perhaps by sector. Alberta's public post-secondary institutions have always had to account for their use of public funds. However, the traditional measures have tended to focus on inputs rather than results. As a result of the government's new emphasis on accounting for performance and achievement, the Minister and administrators of Alberta's public colleges, technical institutes and universities are developing a set of accountability measures. These measures, known as key performance indicators, will cover such areas as program and student outcomes, research and costs. These key performance indicators, or some combination of them, would be used to measure the performance of each institution and help determine funding from a performance envelope (AECD, 1995d, pp. 8–9).

Nine of the accountability reporting framework's 22 indicators (or indicators developed from the data used to develop them) are used to allocate performance-based funding.

5.1.3 Assessing the evidence

If Alberta's government implemented performance-based funding in order to increase the accountability of institutions to government, we would expect:

- The rationale for implementation to include discussion of how existing accountability mechanisms are inadequate.
- An increase in institutional reporting requirements for performances for which they are causally and expectationally responsible.
- No loss of institutional autonomy over major operational decisions although there may be an increase in relative accountability (i.e., an increase in the rate of exchange between accountability and autonomy).

The evidence clearly indicates that Alberta's government was interested in increasing institutional accountability to government through the use of performance indicators. This resulted in an increase in the reporting requirements for institutions although there is some debate about whether institutions are causally and expectationally responsible for all of the performances they are measured upon (Barnetson, 1999).

The evidence also clearly indicates that Alberta sought to increase accountability, not through the introduction of performance-based funding, but through the introduction of an accountability reporting framework (although many of the indicators used by the accountability reporting framework and the performance-based mechanism were the same). Further (as outlined in Section 5.2 below) the implementation of performance-based funding resulted in a decrease in overall institutional autonomy over major operational decisions because the purpose of performance-based funding was to motivate institutions to attain government goals through financial rewards for performance. As noted in Chapter Three, autonomy can be *substantive* (i.e., having the freedom to pursue academic matters without interference) or *procedural* (i.e., having the freedom to establish administrative, budgetary and operational policy and procedures). Performance-based funding has been introduced to curtail substantive institutional autonomy by rewarding institutions for meeting government mandated goals.

Finally, there is clear recognition of the difference between the goals of the accountability reporting framework (i.e., to increase institutional accountability) and the performance-based funding mechanism (i.e., to reward institutions to goal attainment) in the government statements excerpted in Chapter Four. Taken together, this evidence suggests that performance-based funding was not implemented to achieve the goal of increasing institutional accountability to government and hence the first research hypothesis is not valid.

5.1.4 Assessing the plausibility of the conclusion

As discussed in Chapter Two, Parsons' theory of plausibility can be used to assess the rigor of descriptive inferences. Plausibility is a function of whether the inference is coherent (i.e., does the inference make sense?), consistent (i.e., is the internal reasoning of the inference sound?), comprehensive (i.e., to what degree does the inference encompass the phenomenon and are there competing inferences of equal comprehensiveness) and parsimonious (i.e., is the inference the simplest one that adequately explains the phenomenon).

The conclusion that the government did not implement performance-based funding to increase accountability is both coherent and consistent. While increasing accountability was an important goal for government, it chose to go realize this goal

through an accountability reporting framework. This is consistent with the definition of accountability and the approach to increasing it outlined in Chapter Three. There are competing inferences (hypotheses two through six) but none of these inferred goals are mutually exclusive (i.e., government could have been attempting to achieve multiple goals through the introduction of performance-based funding). Finally, the inference that the government did desire an increase in accountability, but did not seek to achieve that goal through performance-based funding, is the simplest inference that adequately explains the evidence presented in Section 5.1.3 above.

5.2 Performance-based funding and institutional responsiveness

The section explores the evidence that Alberta has implemented performance-based funding to increase institutional responsiveness to governmental goals. Section 5.2.1 presents the theorized pattern of evidence expected to exist if this hypothesis is true. Section 5.2.2 outlines the relevant evidence presented in the case study. Section 5.2.3 assesses that evidence to determine if it supports the hypothesis. Section 5.2.4 assess the plausibility of the conclusion.

5.2.1 Theorized pattern of evidence

If Alberta's government implemented performance-based funding in order to increase institutional responsiveness to governmental goals, we would expect:

- The rationale for implementation to include discussion of how institutions are not adequately responsive to the needs of some group(s) (e.g., government, society, students, business, etc.).
- An evaluation of institutional performance linked to funding.
- Rewards (or penalties) significant enough to propel institutions to alter their goals and behaviors.
- An overall loss of institutional autonomy over major operational decisions.

Section 5.2.2 presents the relevant evidence from the case study.

5.2.2 Evidence from the case study

There is substantial evidence that Alberta's government desired an increase in institutional responsiveness to governmental goals. In February 1994, the

government's first business plan *A better way: A plan for securing Alberta's future* noted that one objective of implementing the business plan process is to:

> increase the responsiveness of education and training programs to individual Albertans and their communities with priority given to contributing to Alberta's economy and preparation for the labour market (Government of Alberta, 1994, p. 3)

In March 1994, a draft White Paper *An agenda for change* noted:

> Adult learning will continue to address the social, intellectual and cultural needs of Albertans. However, the institutions will be expected to give renewed emphasis to programming to respond to the needs of the economy. Business and industry will be encouraged to take increased responsibility for job-specific training (AECD. 1994b, p. 16).

And later

> Industry and post-secondary institutions will be encouraged to forge stronger links with each other to ensure the relevance of education and training to the work force and economy. The employability of graduates and their ability to become entrepreneurs will be emphasized (AECD, 1994b, p. 16).

Substantial shifts in the roles of various stakeholders were outlined:

> Learning providers will be more responsive to the needs of the individual, community and the economy. They will solicit information from industry about the needs of the labour market and encourage employers to play a greater role in program design. There will be more emphasis on non-public revenue sources.... Where appropriate, private learning providers will be accredited so that they may play an expanded role in the adult learning system (AECD, 1994b, p. 5).
>
> Business and industry... will play an expanded role by becoming active participants in the adult learning system. They will have an enhanced role in providing advice to the system both in terms of overall direction and specific program design. Employers will take a greater role in job-specific training. Industry will also be expected to contribute more to the costs of education and training (AECD, 1994b, p. 6).

These concerns about how well post-secondary institutions were meeting the needs of society resulted in the 1994 White Paper *New directions for adult learning in Alberta*. The governmental goals outlined in *New directions* include:

1. *Accessibility*—The system will increase access for motivated Albertans to a diverse range of quality learning opportunities.
2. *Responsiveness*—The system will increase its responsiveness to the needs of the individual learner and to the social, economic and cultural needs of the province.
3. *Affordability*—The system will provide quality learning opportunities to the greatest number of Albertans at the lowest possible cost.
4. *Accountability*—The system will increase its accountability to Albertans for the results of publicly funded learning opportunities (AECD, 1994a, p. 7).

Performance-based funding was implemented explicitly to ensure that institutions met the governmental goals outlined above. Specifically, *New directions* directed bureaucrats and institutions to:

> (e)stablish a new funding mechanism to reward performance and productivity in publicly supported post-secondary education.
>
> The department will provide funding to post-secondary institutions through a new mechanism that rewards an institution's performance in providing accessibility, quality and relevance to the needs of the learner at the lowest possible cost. The funding mechanism will be implemented in the 1996/97 fiscal year.
>
> The department will consult with learners and providers of learning opportunities to develop a mechanism based on service and benefits to the learner. As part of the development of this mechanism, expected results must be determined, indicators of performance developed, and performance data defined and collected. The department has initiated projects to develop common information reporting requirements and definitions in cooperation with the institutions, and to develop performance measures at the program level (AECD, 1994a, p. 15).

The discussion paper *A proposed performance-based funding mechanism for Alberta's public post-secondary system* noted:

> Our challenge now is to select a combination of funding methods, techniques and features that
> - support the desired outputs and outcomes of our post-secondary system,
> - rewards institutions' performance, and
> - is consistent with the government's fiscal agenda for a balanced budget (AECD, 1995d, p. 5).

As a result of consultations with stakeholders, the government proposed two methods of resource allocation: (1) a general operations grant to fund program delivery, administration and capital requirements; and (2) performance driven "envelopes of funds that reward performance and assist and act as incentives for

the adult learning system to meet specific objectives" (AECD, 1995d). Among the guiding principles of the Performance Envelope are (AECD, 1995d, p. 3):

> **Productivity**: It should support and provide incentives for the achievement of policy objectives, desired outcomes and improvements in performance.
>
> **Predictability**: It should encourage planning that is consistent with system goals and the department's business plan.

This lead to the establishment of the $15 million Performance Envelope. In 1997, the government expressed the purpose of the Performance Envelope as twofold:

> ...to act as an incentive for post-secondary institutions to meet goals set out in the business plan for Advanced Education and Career Development and to recognize and reward progress towards those goals. ... This is a unique approach, designed to orient institutions in the direction of clear system-wide goals and to build in incentives for ongoing improvements in adult learning (AECD, 1997h, p. 1).

The Performance Envelope awards each institution up to 2.26 to 2.5% of its operating budget based upon its scores on a series of performance indicators. While 2.26 to 2.5% of annual operating grants may not seem like a significant amount of funding, in the context of a 45.3% decline in real-dollar, per-student government grants over 15 years, the availability of additional funding is a substantial incentive for institutions to improve their scores on the performance indicators (which measure achievement of the government goals of increasing accessibility, responsiveness, affordability and research excellence).

5.2.3 Assessing the evidence

If Alberta's government implemented performance-based funding in order to increase institutional responsiveness, we would expect:

- The rationale for implementation to include discussion of how institutions are not adequately responsive to the needs of some group(s) (e.g., government, society, students, business, etc.).
- An evaluation of institutional performance linked to funding.
- Rewards (or penalties) significant enough to propel institutions to alter their goals and behaviors.
- An overall loss of institutional autonomy over major operational decisions..

The evidence presented in Section 5.2.2 is consistent with the theorized pattern of evidence. Prior to the introduction of performance-based funding, government documents show concern about the responsiveness of institutions to the needs of society and particularly with the economic outcomes generated by post-secondary education. Subsequently, performance-based funding was introduced to act as an incentive for institutions to meet the government-mandated goals outlined in *New directions* by linking funding to institutional performance. The rewards of compliance, while small, are significant in the context of declining funding for post-secondary education and no increases in government grants to deal with the effects of inflation. By linking funding to institutional attainment of government goals, substantive institutional autonomy is curtailed because performance-based funding has the effect of pressuring institutions to maintain or change their performance to meet governmental goals (i.e., performance-based funding is regulation). Taken together, the evidence provided above suggests performance-based funding was implemented to increase institutional responsiveness to governmental goals (as outlined in *New directions*) and hence the second research hypothesis is valid.

5.2.4 Assessing the plausibility of the conclusion

As discussed in Chapter Two, Parsons' theory of plausibility can be used to assess the rigor of descriptive inferences. Plausibility is a function of whether the inference is coherent (i.e., does the inference make sense?), consistent (i.e., is the internal reasoning of the inference sound?), comprehensive (i.e., to what degree does the inference encompass the phenomenon and are there competing inferences of equal comprehensiveness) and parsimonious (i.e., is the inference the simplest one that adequately explains the phenomenon).

The conclusion that the government implemented performance-based funding to increase institutional responsiveness to governmental goals is both coherent and consistent. Performance-based funding is a tool used to increase institutional goal attainment (i.e., it is regulation) and this outcome is consistent with the stated intent of the mechanism. There are competing inferences (i.e., the other research hypotheses) but none of these inferred goals are mutually exclusive (i.e., government could have been attempting to achieve multiple goals through the introduction of performance-based funding). Finally, the inference that the government did desire an

increase in institutional responsiveness to governmental goals is the simplest inference that adequately explains the evidence (i.e., both government statements about the purpose of performance-based funding and its outcomes) presented in Section 5.2.3 above.

5.3 Performance-based funding and institutional productivity

The section explores the evidence that Alberta has implemented performance-based funding to increase institutional productivity. Section 5.3.1 presents the theorized pattern of evidence expected to exist if this hypothesis is true. Section 5.3.2 outlines the relevant evidence presented in the case study. Section 5.3.3 assesses that evidence to determine if it supports the hypothesis. Section 5.3.4 assesses the plausibility of the conclusions.

5.3.1 Theorized pattern of evidence

If performance-based funding has been introduced to increase institutional productivity, we would expect:

- The rationale for implementing performance-based funding includes discussion of how current productivity levels are too low and/or how existing mechanisms for increasing productivity are inadequate.
- A mechanism that rewards institutions for increasing productivity (either through improving quality or maintaining quality while decreasing per-unit costs), rather than simply efficiency. This would likely entail performance indicators that examined efficiency (i.e., cost per unit) and quality (i.e., ability of an institution to enable and empower students).

Section 5.3.2 outlines the evidence that performance-based funding was implemented to increase institutional productivity.

5.3.2 Evidence from the case study

There is substantial evidence that Alberta's government desired improvements in institutional operations and outcomes. Klein's 1993 election platform was built upon privatizing government services, cutting spending and increasing productivity ahead of implementing new taxes in order to eliminate the province's deficit and debt

(Lisac, 1995, p. 65). The introduction of business plans and annual reports was a part of this strategy:

> The goal is to secure a prosperous future for Albertans. The strategy is to focus on a better was—a better way to get the most value for the taxpayer's dollars, a better way to provide high quality essential programs at a cost we can afford. The process is business plans—three-year plans complete with specific objectives, actions, results and spending targets. The result is open and accountable government (Government of Alberta, 1994, p. ii).

The introduction of business plans was to stimulate operational changes which, in turn, would improve outcomes:

> Across all departments business plans there is one consistent theme—the need to explore new approaches and change the way we do business.... Some important common approaches are reflected in the individual business plans:
>
> - eliminating waste and duplication
> - streamlining processes and getting rid of unnecessary regulations
> - setting out expected results and beginning the complex job of establishing performance measures, benchmarks and targets
> - targeting programs and services to those who need them most
> - moving from direct service delivery to facilitating services delivered by other agencies
> - shifting from a regulatory role to a policy and facilitation role
> - increasing opportunities for private sector delivery
> - improving productivity
> - encouraging work teams, innovation and rewards for high performance
> - reducing administration
> - recovering costs for services so that, except for essentials, people who use services pay for them (Government of Alberta, 1994, pp. 14–15).

Government expectations that institutional performance should improve was reflected the 1994 White Paper *New directions for adult learning in Alberta* which outlined four goals for Alberta's adult learning system:

1. *Accessibility*—The system will increase access for motivated Albertans to a diverse range of quality learning opportunities.
2. *Responsiveness*—The system will increase its responsiveness to the needs of the individual learner and to the social, economic and cultural needs of the province.
3. *Affordability*—The system will provide quality learning opportunities to the greatest number of Albertans at the lowest possible cost.
4. *Accountability*—The system will increase its accountability to Albertans for the results of publicly funded learning opportunities (AECD, 1994a, p. 7).

These goals clearly are a call for improved performance as institutions are directed to increase the number and the breadth of their outputs while maintaining quality. Among the government initiatives designed to increase institutional productivity was the Access Fund. The Access Fund was established to finance innovative, cost effective methods of increasing student spaces while meeting labour market needs (AECD, 1994a). The goals of the Access Fund were:

a) To enroll more adult Albertans in basic education and skills training, career and technical programs and degree programs.
b) To expand or create programs to enable more Albertans to acquire the attitudes, skills and knowledge required for employability and personal growth; and
c) To improve the productivity and performance of the adult learning system by supporting quality program proposals that demonstrate effective and efficient use of public funds (AECD, 1996l, p. 1).

Originally, $47 million was allocated to create 10,000 additional spaces between 1994 and 1997. The $4700 allocated per student (as compared to the $7649 provided per-student through base grants in 1993/94) was designed to eliminate inefficiencies within the system (AECD, 1996c). The Access Fund added 10,601 full-time equivalent spaces at an annual cost of roughly $2900 per student (AECD, 1996d).

The Performance Envelope is another government initiative designed to encourage institutions to increase productivity by achieving the government goals outlined in *New directions*. According to *New directions*, the department and institutions were to:

> (e)stablish a new funding mechanism to reward performance and productivity in publicly supported post-secondary education.
>
> The department will provide funding to post-secondary institutions through a new mechanism that rewards an institution's performance in providing accessibility, quality and relevance to the needs of the learner at the lowest possible cost. The funding mechanism will be implemented in the 1996/97 fiscal year (AECD, 1994a, p. 15).

The discussion paper *A proposed performance-based funding mechanism for Alberta's public post-secondary system* notes:

> Our challenge now is to select a combination of funding methods, techniques and features that

- support the desired outputs and outcomes of our post-secondary system,
- rewards institutions' performance, and
- is consistent with the government's fiscal agenda for a balanced budget (AECD, 1995d, p. 5).

The guiding principles of performance-based funding include (AECD, 1995d, p. 3):

> **Productivity**: It should support and provide incentives for the achievement of policy objectives, desired outcomes and improvements in performance.

Ultimately, the Performance Envelope was:

> ...to act as an incentive for post-secondary institutions to meet goals set out in the business plan for Advanced Education and Career Development and to recognize and reward progress towards those goals. ... This is a unique approach, designed to orient institutions in the direction of clear system-wide goals and to build in incentives for ongoing improvements in adult learning (AECD, 1997h, p. 1).

Funding from the Performance Envelope was allocated based upon institutional performance on nine indicators:

Credit Full-Load Equivalent (FLE) Enrollment—Credit full-load equivalent is a unit for counting students in which the equivalent of one full course load in an academic year is said to be one FLE. An annual count combines full and partial load students. It is a measure of the volume of programming delivered.

Graduate Satisfaction—All students who completed a program were surveyed. the proportion of respondents who indicated that they were "somewhat" of "fully" satisfied with the quality of their programs is being used.

Employment Rate—Identifies the proportion of graduate follow-up respondents (6 months after graduation for colleges; 2 years for universities) that are employed.

Administration Expenditures—Represents the proportion of expenditures allocated to institutional administration which includes, Board, President, vice - presidents and general administration and planning. This is expressed as a percentage of total expenditures less expenditures on ancillary activities.

Enterprise Revenue—Total revenue less government grants, tuition as per the tuition fee policy, ancillary revenue and deferred capital contribution. This is expressed as a proportion of the government grant. This indicator is meant to capture the degree of "leverage" an institution has established through its operations grant by raising revenue from alternative sources.

Council Success Rates—Identifies national granting council awards (MRC, NSERC and SSHRC) and per full time faculty member. This is done for peer institutions across Canada.

Citation Impact—The Citation Impact is expressed as the ratio of citations to published papers. The Institute for Scientific Information (ISI) produces a database of summary publications and citation statistics that reflect research performance in the sciences and social sciences for Canadian universities. The database includes citations for 6000 peer reviewed journals.

Community and Industrial Research—Community and Industry sponsored research per full-time faculty member. This data has been derived from Statistics Canada and the Canadian Association of University Business Officers (CAUBO).

Research Enterprise—Total sponsored research revenues generated. This is expressed as a proportion of the government grant. This indicator is meant to capture the degree of "leverage" an institution has established through its operations grant by raising research (AECD, 1997m, pp. 1–2).

The Credit FLE indicator pressures institutions to produce more students at a lower cost (i.e., to increase efficiency). The Graduate Satisfaction, Graduate Employment, and Citation Impact Indicators pressure institutions to increase the quality of their offerings, but focus on a value-for-money definition of quality.

5.3.3 Assessing the evidence

If performance-based funding has been introduced in increase institutional productivity, we would expect:

- The rationale for implementing performance-based funding includes discussion of how current productivity levels are too low and/or how existing mechanisms for increasing productivity are inadequate.
- A mechanism that rewards institutions for increasing productivity (either through improving quality or maintaining quality while decreasing per-unit costs), rather than simply efficiency. This would likely entail performance indicators that examined efficiency (i.e., cost per unit) and quality (i.e., ability of an institution to enable and empower students).

The introduction of business plans in Alberta's public sector were designed to improve institutional performance. Improving institutional performance also figured prominently in the 1994 White Paper on adult learning. Measuring and rewarding performance (such as occurs in the Performance Envelope) are a part of the business plan process and encourage institutions to achieve government goals (such as increasing the number of opportunities for Albertans to access quality learning

opportunities at the lowest possible cost). This suggests that performance-based funding was introduced to achieve increases in institutional performance.

Performance-based funding (along with other initiatives such as the Access Fund) pressure institutions to increase efficiency by enrolling more students at lower cost. Some of the indicators used to allocated performance-based funding do seem to have a quality component (e.g., Graduate and Satisfaction Rates) but the definition of quality used in these indicators is one of value for money. That is, quality is assumed to be improved by simply increasing the scores on that indicators. There is no measure of whether institutions are increasing how well they are enabling and empowering their students (as would be the case if a transformative approach to quality were being used).

Taken together, the evidence suggests the third research hypothesis is partially valid. Alberta's government did implement performance-based funding to pressure institutions to increase their efficiency but the value-for-money definition of quality used in Alberta's performance-based funding mechanism fails to engage the qualitative aspects embodied in the transformative definition of quality (whereby higher education enables and empowers students in a unique manner unsuited for quantification). Although the mechanism's consideration of quality is inadequate and may compromise the mechanism's ability to increase productivity (as opposed to simply increasing efficiency), the government's intent was to increase productivity.

5.3.4 Assessing the plausibility of the conclusion

As discussed in Chapter Two, Parsons' theory of plausibility can be used to assess the rigor of descriptive inferences. Plausibility is a function of whether the inference is coherent (i.e., does the inference make sense?), consistent (i.e., is the internal reasoning of the inference sound?), comprehensive (i.e., to what degree does the inference encompass the phenomenon and are there competing inferences of equal comprehensiveness) and parsimonious (i.e., is the inference the simplest one that adequately explains the phenomenon).

The conclusion that the government implemented performance-based funding to increase institutional productivity is both coherent and consistent. There is substantial evidence that the Klein government sought to improve the operation of

government and equated efficiency with performance. This explains why the performance-based funding mechanism described in Chapter Four focuses so heavily on increasing efficiency while the policy documents refer to this outcome as productivity. There are competing inferences (i.e., the other research hypotheses) but none of these inferred goals are mutually exclusive (i.e., government could have been attempting to achieve multiple goals through the introduction of performance-based funding). Finally, the inference that the government did desire an increase in institutional productivity but inadequately conceptualized quality is the simplest inference that adequately explains the evidence (i.e., government statements about increasing productivity but a performance-based funding mechanism that focuses on increasing efficiency) presented in Section 5.2.3 above.

5.4 Performance-based funding and government transfers to institutions

The section explores the evidence that Alberta has implemented performance-based funding as a politically feasible way to increase government transfers to institutions. Section 5.4.1 presents the theorized pattern of evidence expected to exist if this hypothesis is true. Section 5.4:2 outlines the relevant evidence presented in the case study. Section 5.4.3 assesses that evidence to determine if it supports the hypothesis. Section 5.4.4 assess the plausibility of the conclusion.

5.4.1 Theorized pattern of evidence

If Alberta's government implemented performance-based funding as a politically feasible way to increase government transfers to institutions, we would expect:

- Public disapproval of increases in government grants to institutions through less complex means.
- A desire on the part of some element of government to increase funding to post-secondary institutions.
- Performance-based funding framed as an exchange relationship resulting in an increase in something that institutions provide to government or the public.
- The funding institutions receive to exceed the costs they incur.

Section 5.4.2 outlines the evidence that performance-based funding was implemented as politically feasible way for government to increase transfers to institutions.

5.4.2 Evidence from the case study

There is some evidence that Alberta's government desired an increase transfers to post-secondary institutions through the implementation of performance-based funding. For example, the discussion paper *A proposed performance-based funding mechanism for Alberta's public post-secondary system* notes:

> The Performance Envelope could also be structured to deal with inflation. A minimal level could be made available to all institutions to compensate for inflation. Additional funding would depend on each institution's performance "report card". Institutions that rate high in performance would gain more funds (AECD, 1995d, p. 9).

By allocating funding to compensate for inflation through the Performance Envelope, government may have been seeking to create the appearance that institutions have earned their funding increase. The allocation of performance awards seems to support this idea. In both 1997 and 1998, all institutions received a 1% system-wide award in addition to an increase that varied according to institutional scores on performance indicators. This allocation was explained as follows:

> To recognize overall success of Alberta's adult learning system, all institutions have been awarded a system performance award of net 1% of their basic operating grants (the gross award was 1.5% less a .5% contribution from each institution into the Performance Envelope.) This system award has already been distributed to institutions.
>
> Seventeen institutions receive an additional 1.5% of .75% based upon their superior progress towards system-wide goals. The actual dollar amount vary by institution, depending on the amount of each institution's operating grant (AECD, 1997n, p. 2).

Despite this additional funding, most institutions saw a net loss in per-student grants after Performance Awards were made. This loss occurred because the additional 2.5% of their operating grants that top-performers received as a performance award does not compensate institutions for the ≥4% expansion in enrollment that was required to secure the performance award (ignoring entirely the small but cumulative effect of inflation). This may have been offset in some regard by additional enrollments that were partly funded by the Access Fund (although again, these enrollments were funded a lower-than-existing per-student grant levels). The expectation that the Performance Envelope will exclude Access funded enrollment

increases from the calculation of Credit FLE expansion beginning in 2000 (AECD, 1999a) suggests that the Performance Envelope will continue to under compensate institutions for enrollment expansions.

5.4.3 Assessing the evidence

If Alberta's government implemented performance-based funding as a politically feasible way to increase government transfers to institutions, we would expect:

- Public disapproval of increases in government grants to institutions through less complex means.
- A desire on the part of some element of government to increase funding to post-secondary institutions.
- Performance-based funding framed as an exchange relationship resulting in an increase in something that institutions provide to government or the public.
- The funding institutions receive to exceed the costs they incur.

There does not appear to be evidence of direct public disapproval of increases in government transfers to post-secondary institutions. There is some indirect evidence of public disapproval of increases in transfers given the electoral success of the Tory party on a platform of reducing public-sector spending. There is also no evidence that some element of government desires to increase government transfers to post-secondary institutions except one reference to increasing transfers (through the Performance Envelope) to deal with erosive effects of inflation upon institutional grants. This may reflect a desire on the part of the government to suppress knowledge that the Performance Envelope increases institutional base grants, but itself seems to contradict the idea that performance-based funding is a politically feasible way to increase base-grants (by framing performance-based funding as an exchange). Further, there is no evidence of performance-based funding being framed as an exchange relationship between government and institutions; rather, performance-based funding is repeatedly discussed as a means to pressure institutions to achieve government goals. Finally, there is no evidence that institutions receive funding through the Performance Envelope that exceeds the costs they incur. This suggests that government did not implement performance-based funding as a politically feasible way to increase government transfers to institutions and that the fourth research hypothesis is not valid.

5.4.4 Assessing the plausibility of the conclusion

As discussed in Chapter Two, Parsons' theory of plausibility can be used to assess the rigor of descriptive inferences. Plausibility is a function of whether the inference is coherent (i.e., does the inference make sense?), consistent (i.e., is the internal reasoning of the inference sound?), comprehensive (i.e., to what degree does the inference encompass the phenomenon and are there competing inferences of equal comprehensiveness) and parsimonious (i.e., is the inference the simplest one that adequately explains the phenomenon).

The conclusion that the government did not implement performance-based funding as a politically feasible was increase government transfers to institutions is both coherent and consistent. There is only one government statement that performance-based funding will increase institutional funding and the mechanism does not actually increase per-student, real-dollar funding. Further, the Klein government's public-sector reforms have focused on reducing institutional dependence on government grants. There are competing inferences (i.e., the other research hypotheses) but none of these inferred goals are mutually exclusive (i.e., government could have been attempting to achieve multiple goals through the introduction of performance-based funding). Finally, the inference that the government did not desire to increase institutional transfers is the simplest inference that adequately explains the evidence (i.e., both government statements about the purpose of performance-based funding and its outcomes) presented in Section 5.2.3 above.

5.5 Performance-based funding facilitating a broader policy agenda

The section explores the evidence that Alberta has implemented performance-based funding to facilitate the introduction of a broader policy agenda. Section 5.5.1 presents the theorized pattern of evidence expected to exist if this hypothesis is true. Section 5.5.2 outlines the relevant evidence presented in the case study. Section 5.5.3 assesses that evidence to determine if it supports the hypothesis. Section 5.5.4 assess the plausibility of the conclusion.

5.5.1 Theorized pattern of evidence

If Alberta's government implemented performance-based funding in order to facilitate the introduction of a broader policy agenda (that is expected to be one of

increasing academic capitalism—that is aligning the activities of higher education with the needs of the marketplace), we would expect:

- The introduction of policies that pressure academics and institutions to increasingly engaged in market and market-like behavior (i.e., academic capitalism) by reducing block transfers, increasing use of designated funding and increasing the pressure to develop non-governmental sources of revenue.
- A performance-based funding mechanism that embeds assumptions in its structure and/or in its indicators that pressure institutions to align their activities with the needs of the marketplace.
- The offloading of responsibility for outcomes of higher education of individual institutions and an increasingly evaluative role for government.

5.5.2 Evidence from the case study

There is some evidence that performance-based funding is part of a broader policy agenda that is consistent with academic capitalism (i.e., aligning the activities of higher education with the needs of the marketplace). There are two types of evidence that Alberta's government was seeking to align the activities of higher education with needs of the market place: (1) Section 5.5.2.1 outlines government statements advocating the alignment of higher education's activities with the needs of the marketplace; and (2) Section 5.5.2.2 outlines policy changes designed to align the activities of higher education with the needs of the market place. Section 5.5.2.3 analyzes the role performance-based funding plays in aligning the activities of higher education with the needs of the marketplace. Section 5.5.2.4 outlines the overall impact of these policies.

5.5.2.1 Government statements—Government documents clearly and repeatedly discuss the importance of aligning the activities of higher education with the needs of the marketplace. This entails both reference to higher education as a source of labour market training and as a source of knowledge and technology that can be transferred to the private sector. *Towards 2000 together* makes several references to higher education as a source of labour market training:

> A highly skilled workforce will be essential for Alberta to succeed in the knowledge-intensive world of the 21st century. Consequently, new approaches may be required to more effectively bring together economic and educational

> priorities. These approaches may require a shift in the responsibilities borne by government, the private sector and the individual (Government of Alberta, 1992, p. 10).
>
> If business is to assume a larger role in determining educational priorities, it should also expect to assume more responsibility for raising funds in support of educational institutions. Again, all economic participants will want to consider carefully the potential benefits and costs of more fully integrating Alberta's educational and economic priorities. This integration of priorities will, of course, need to satisfy two complementary goals... ensuring that Alberta has the skilled and adaptable workforce it needs to compete in the global economy... while continuing to contribute to the development of informed, productive and socially responsible citizens (Government of Alberta, 1992, p. 28).
>
> Alberta's universities, colleges and technical institutes play a crucial role in linking science and technology with industrial innovation. These institutions train the needed scientific, engineering and technical personnel and conduct most of the research needed to further technological development (Government of Alberta, 1992, p. 49).

Subsequently, *Seizing opportunities: Alberta's new economic development strategy* noted:

> From elementary grades to post-secondary training, education must give Albertans competitive skills to succeed in the evolving world economy. To do this, we need to increase private-sector participation in education and training at all levels. Business can help foster the entrepreneurial attitudes and skills necessary to increase competitiveness.... The Minister of Advanced Education and Career Development has been working with a group of representatives from business, labour, equity and minority groups to determine the need for a private-sector labour-market development and training board. This is an important step in bringing together various players to jointly set policy and manage the important issue of labour market training in Alberta (Government of Alberta, 1993, pp. 20–21).

In February 1994, the government's first business plan *A better way: A plan for securing Alberta's future* noted that one objective is to:

> increase the responsiveness of education and training programs to individual Albertans and their communities with priority given to contributing to Alberta's economy and preparation for the labour market (Government of Alberta, 1994, p. 3)

In March 1994, a draft White Paper *An agenda for change* was released. Of particular note is the shift of emphasis in income-support programs. "Support for education, training and re-training, with the aim of increasing individual self-sufficiency and

reducing dependency on social support systems is a priority, both provincially and nationally" (AECD, 1994b, p. 2). *An agenda for change* also noted:

> Adult learning will continue to address the social, intellectual and cultural needs of Albertans. However, the institutions will be expected to give renewed emphasis to programming to respond to the needs of the economy. Business and industry will be encouraged to take increased responsibility for job-specific training (AECD. 1994b, p. 16).

And later:

> Industry and post-secondary institutions will be encouraged to forge stronger links with each other to ensure the relevance of education and training to the work force and economy. The employability of graduates and their ability to become entrepreneurs will be emphasized (AECD, 1994b, p. 16).

Substantial shifts in the roles of various stakeholders were outlined:

> Learning providers will be more responsive to the needs of the individual, community and the economy. They will solicit information from industry about the needs of the labour market and encourage employers to play a greater role in program design. There will be more emphasis on non-public revenue sources.... Where appropriate, private learning providers will be accredited so that they may play an expanded role in the adult learning system (AECD, 1994b, p. 5).
>
> Business and industry... will play an expanded role by becoming active participants in the adult learning system. They will have an enhanced role in providing advice to the system both in terms of overall direction and specific program design. Employers will take a greater role in job-specific training. Industry will also be expected to contribute more to the costs of education and training (AECD, 1994b, p. 6).

The subsequent White Paper *New directions* appears to have deviated from focusing on higher education as labour-market training and outlined four goals for Alberta's adult learning system that include mention of non-economic goals:

1. *Accessibility*—The system will increase access for motivated Albertans to a diverse range of quality learning opportunities.
2. *Responsiveness*—The system will increase its responsiveness to the needs of the individual learner and to the social, economic and cultural needs of the province.
3. *Affordability*—The system will provide quality learning opportunities to the greatest number of Albertans at the lowest possible cost.
4. *Accountability*—The system will increase its accountability to Albertans for the results of publicly funded learning opportunities (AECD, 1994a, p. 7).

Despite this, the policy initiatives that have resulted from *New directions* have been focused exclusively on labour market outcomes. Specifically, the Access Fund (see Section 4.3.3.3 above) encourages increasing enrollments in disciplines with high labour-market demand and the Performance Envelope (see Section 5.5.2.3 below) rewards institutions for producing economic outcomes such as high rates of graduate employment.

Alberta's 1997 human resource strategy *People and prosperity* also focuses on higher education as a source of labour-market training, by noting:

> Continuous learning and the updating of skills is a shared responsibility. The primary onus is on individual Albertans, but strategies are needed to help them access learning opportunities and obtain the skills and knowledge they need to be successful. Student assistance ensures that financial barriers do not act as a deterrent to Alberta pursuing adult learning. Alberta's schools, universities, colleges and technical institutes play a key role in our human resource strategy. Schools are responsible for providing education programs that develop individual potential and prepare young Albertans for daily living, the world of work and lifelong learning. Adult learning institutions have a responsibility to provide high-quality, accessible learning opportunities to people who are preparing for careers and to those who wish to update their skills. Employers, employee groups and unions have a responsibility to facilitate learning opportunities in the workplace (Government of Alberta, 1997a, p. 10).

Higher education is clearly being directed to generate primarily labour-market outcomes—an approach consistent with the ministry's business plans and annual reports (AECD, 1998a, 1998e).

There are also numerous statements about the role of higher education as a source of knowledge and technology that can be transferred to the private sector. *Towards 2000 together* stated that one of Alberta's economic objectives was "to encourage the development and application of science, technology ad research to enhance Alberta's domestic and international economies" (Government of Alberta, 1992, p. 6).

In 1993, *Seizing opportunity: Alberta's new economic development strategy* noted that Alberta would:

> substantially increase the focus on commercialization of research and development, through activities which include the development of an industry-

> based technology commercialization organization to focus on market research, prototype development, and initiation of management teams capable of building a company around a technology (Government of Alberta, 1993, p. 10).

In February 1994, the government's first business plan *A better way: A plan for securing Alberta's future* noted that one objective is to:

> increase the commercial applications of Alberta inventions and innovations and improve the effectiveness of government-funded research and development activities (Government of Alberta, 1994, p. 3)

In support of this goal, government promised to:

> encourage quality research, support research programs with clear commercial potential and which add to the competitiveness of Albertan industries (and) focus the efforts of the Alberta Research Council on biotechnology, energy breakthrough technologies, energy technologies, environmental technologies, forest products, information technologies, manufacturing and pulp and paper (Government of Alberta, 1994, p. 4).

The expected results include:

> Research and development activities in Alberta are expanded, there is an increase in successful commercial endeavors stemming from research, and a corresponding growth in Alberta's economy (Government of Alberta, 1994, p. 4).

Although *New directions* largely ignored university research, it did trigger a review of university research in Alberta. This 1995 review proposed that any university research policy must seek:

1. to contribute to *human resource development* by training a highly educated and competitive workforce, providing for a new generation of researchers, and providing for the broad education of Albertans in general, and
2. to contribute to *the cultural, social and economic development of Alberta* through access to and the development of new knowledge (AECD, 1995c, p. 28).

Alberta's 1996 policy framework for university research (1996g) by and large adopted these goals and created the Research Excellence Envelope (see Section 4.3.3.5 above). This was subsequently supplemented by the Intellectual Infrastructure Partnership Program (see Section 4.3.3.6 above).

5.5.2.2 Government policy—Analysis of specific government policies reveals a trend towards aligning the activities of higher education with the needs of the marketplace. As noted in the literature review, there is a distinct pattern of changes that occur when governments attempt to align the activities of higher education with the needs of the marketplace. This pattern includes:

1. Decreasing undesignated government transfers to institutions.
2. Increasing the use of designated funding (i.e., funding envelopes) to encourage the attainment of specific objectives.
3. Encouraging institutions to develop non-governmental sources of revenue.

This pattern of changes forces institutions to become increasingly reliant on non-government funding which, in turn, allows those outside of higher education to increasingly influence the goals and priorities of higher education. As noted in Section 4.3.4 above, this pattern is evident in Alberta. Per-student real-dollar government transfers to post-secondary institutions declined by 45.3% between 1982 and 1997 with a 21% reduction in grants following the release of the White Paper *New directions for adult learning in Alberta*. This loss has been somewhat offset by changes to government tuition policy which allows institutions to increase the tuition levels. Institutions are also being encouraged, through various funding envelopes as well as through a continuing decline in per-student, real-dollar government funding to seek non-governmental sources of funding (e.g., funding from corporation and the non-profit sector).

The Government of Alberta has also introduced of a series of funding envelopes that allow government to set institutional priorities. These funding envelopes are outlined in Sections 4.3.4.3 through 4.3.4.8 above. The Access Fund, the Research Excellence Envelope, and the Intellectual Infrastructure Partnership Program all focus on increasing the alignment of higher education's activities with the needs of the marketplace.

The Access Fund was designed to increase enrollment in disciplines with high labour-market demand (AECD, 1994a) and its goals were:

a) To enroll more adult Albertans in basic education and skills training, career and technical programs and degree programs.
b) To expand or create programs to enable more Albertans to acquire the attitudes, skills and knowledge required for employability and personal growth; and
c) To improve the productivity and performance of the adult learning system by supporting quality program proposals that demonstrate effective and efficient use of public funds (AECD, 1996l, p. 1).

The Research Excellence Envelope and Intellectual Infrastructure Partnership Programs encourage research in areas (such as the health, environmental, engineering and natural sciences) that are more likely to result in knowledge and technology that can be transfers to the private-sector. The rationale for the introduction of I2P2 was:

> The development and application of new knowledge has become central to competitive success with the global economy. Universities and research hospitals are the key to:
>
> - the development of new knowledge and technologies;
> - the transfer of new knowledge and technologies to the private sector and communities;
> - the development and retention of highly trained and knowledgeable personnel in the province; and
> - employment growth and wealth creation related to the development of new technologies and knowledge (AECD, 1997k, p. 1).

The items eligible for funding through both programs favour market-proximate disciplines such as the health, environmental, engineering and natural sciences.

Government policy initiatives such as declining funding, increasing use of funding envelopes and pressuring institutions to seek non-governmental sources of funding are consistent with and operationalize the policy statements outlined in Section 5.5.2.1 above.

5.5.2.3 *The role of performance-based funding*—The Performance Envelope is designed to encourage institutions to achieve the goals outlined in *New directions*. By linking funding to institutional performance on a series of performance indicators (themselves derived from the goals outlined in *New directions*), government pressures institutions to align their activities with the needs of the marketplace.

The Performance Envelope encourages academic capitalism in three ways. First, it rewards institutions for seeking non-government funding sources (e.g., corporations, students, granting agencies). The relationship between institutions and these funders is explicitly one of exchange and, thus, institutional activities become more closely linked to the needs of the market. This disproportionately favors disciplines that are both close and responsive to the market. Second, the Performance Envelope shifts responsibility for achieving outcomes fully onto institutions and absolves government of responsibility for the impact of their funding reductions. This ignores that institutional performance is significantly constrained by environmental and input factors (Barnetson, 1999). This is consistent wit the growth of the evaluative state that has given rise to policies emphasizing academic capitalism. Third, the Performance Envelope perpetuate the government's discussion of education and labour-market training with its indicators of graduate employment. By reinforcing the framing of education as a commodity, the Performance Envelope legitimizes increasing tuition and eliminates the concept of entitlement from discussion of accessibility (Barnetson, 1997).

The Performance Envelope also acts as a conceptual technology. That is, the inclusion and exclusion of performance indicators shapes how we think about higher education and its purposes. The Performance Envelope does this by embedding six types of assumptions into the structures of indicators:

1. *Value*—Performance indicators delineate what activity or outcome is valued through the inclusion or exclusion of related indicators.
2. *Judgment*—Performance indicators judge an activity or outcome based upon the value embedded in an indicator. This serves to reinforce the delineation of which activities or outcomes are valuable by tying an intrinsic or extrinsic reward to that value.
3. *Causality*—Performance indicators assign responsibility for an activity or outcome by embedding an assumption of causality. This may ignore the difference between causality (i.e., one event triggering a second such as post-secondary education causing higher levels of employment) and association (i.e., two events occurring together such as receiving a post-secondary education and attaining a job where both may be caused by some third variable such as socioeconomic status).

4. *Goals*—Performance indicators assign institutions goals based upon the value embedded in the indicator. The simplistic nature of performance indicators, however, may exclude consideration of contextual factors which would otherwise be considered in goal development.
5. *Normalcy*—Performance indicators delineate a range of normal behaviors or outcomes because the mechanistic nature of performance-based funding is unable to cope with significant diversity in operating norms.
6. *Comparability*—Performance indicators assume comparability (of mission, activities, outcomes and circumstances) between institutions by measuring them all on the same indicator.

Alberta's performance-based funding mechanism has nine indicators outlined in Section 4.4.2 above. Some indicators contain embedded assumptions consistent with aligning the activities of higher education with the needs of the marketplace.

1. **Credit Full-Load Equivalent (FLE) Enrollment**—Credit full-load equivalent is a unit for counting students in which the equivalent of one full course load in an academic year is said to be one FLE. An annual count combines full and partial load students. It is a measure of the volume of programming delivered (AECD, 1997m, p. 1).

   This indicator contains no embedded assumptions consistent with aligning the activities of higher education with the needs of the market place. It does, however, reward institutions for increasing enrollment. Institutional enrollment was expanded between 1994 and 1998 through the Access Fund which sought to increase enrollment in disciplines with labour market demand. Because government-funded enrollment expansions are occurring through the Access Fund and the Access Fund encourages expansions only where there is labour market demand, this indicator pressures institutions to expand enrollment in disciplines that with high labour-market demand.

2. **Graduate Satisfaction**—All students who completed a program were surveyed. The proportion of respondents who indicated that they were "somewhat" o "fully" satisfied with the quality of their programs is being used (AECD, 1997m, p. 1).

This indicator *values* the satisfaction of students and asserts that institutions *cause* graduate satisfaction. This frames students as customers and pressures institutions to alter programming to meet the needs of graduates.

3. **Employment Rate**—Identifies the proportion of graduate follow-up respondents (6 months after graduation for colleges; 2 years for universities) that are employed (AECD, 1997m, p. 1).

   This indicator *values* programs that result in employment and pressures institutions to increase the employment level of graduates. In combination with the Access Fund and the Credit FLE indicator above, this indicator rewards institutions for producing graduates in programs with high labour market demand. It also rewards institutions which shut down programs that do not show labour-market outcomes within the specified time period.

4. **Administration Expenditures**—Represents the proportion of expenditures allocated to institutional administration which includes, Board, President, vice -presidents and general administration and planning. This is expressed as a percentage of total expenditures less expenditures on ancillary activities (AECD, 1997m, p. 1).

   This indicator contains no embedded assumptions consistent with aligning the activities of higher education with the needs of the marketplace.

5. **Enterprise Revenue**—Total revenue less government grants, tuition as per the tuition fee policy, ancillary revenue and deferred capital contribution. This is expressed as a proportion of the government grant. This indicator is meant to capture the degree of "leverage" an institution has established through its operations grant by raising revenue from alternative sources. (For universities this does not include sponsored research revenues). This includes revenues generated from non-credit activities (AECD, 1997m, p. 1).

   This indicator *values* increasing non-governmental sources of funding. This is consistent with the pattern of changes noted above when governments pressure

institutions to align their activities with the needs of the marketplace. As institutions seek non-governmental support (primarily from corporations), private funders are increasingly able to direct research, curricular and administrative decisions.

6. **Council Success rates**—Identifies national granting council awards (MRC NSERC and SSHRC) and per full time faculty member. This is done for peer institutions across Canada (AECD, 1997m, p. 1).

   This indicator contains no embedded assumptions consistent with aligning the activities of higher education with the needs of the marketplace.

7. **Citation Impact**—The Citation Impact is expressed as the ratio of citations to published papers. The Institute for Scientific Information (ISI) produces a database of summary publications and citation statistics that reflect research performance in the sciences and social sciences for Canadian universities. The database includes citations for 6000 peer reviewed journals (AECD, 1997m, p. 2).

   This indicator contains no embedded assumptions consistent with aligning the activities of higher education with the needs of the marketplace.

8. **Community and Industrial Research**—Community and Industry sponsored research per full-time faculty member. This data has been derived from Statistics Canada and the Canadian Association of University Business Officers (CAUBO) (AECD, 1997m, p. 2).

   This indicator *values* increasing non-governmental sources of institutional revenue. Increasingly relying upon funding from non-governmental sources increases the ability of corporations and non-profit organizations to influence research priorities and topics. This may result in an increasing transfer to knowledge and technology to the private sector.

9. **Research Enterprise**—Total sponsored research revenues generated. This is expressed as a proportion of the government grant. This indicator is meant to

> capture the degree of "leverage" an institution has established through its operations grant by raising research (AECD, 1997m, p. 2).
>
> This indicator also *values* increasing non-governmental sources of revenue with the consequent potential for increasing the alignment of higher education's activities with the needs of the marketplace.

This analysis suggests that performance-based funding serves to facilitate the implementation of a broader policy agenda, both by providing inducements for institutions to attain government goals and by embedding normative assumptions into the structure of performance indicators that are consistent with this agenda.

5.5.2.4 *Impact of policy changes*—Assessing the impact of post-1994 policies on the alignment of the activities of higher education and the needs of the marketplace is difficult and beyond the scope of this study. Some circumstantial evidence does exist. The additional student spaces provided by the Access Fund have been heavily concentrated in disciplines such as science (2350 FTEs), computing science (717 FTEs), agriculture (536 FTEs), environmental (608 FTEs), technologies (245 FTEs), manufacturing (248 FTEs), business (624 FTEs), and management (490 FTEs). These disciplines appear to have more immediate labour-market relevance that the humanities (889 FTEs) (AECD, 1996l, p. 8). Further, the second Access Fund recently allocated $51 million to expand student spaces in information and communications technology programs (AECD, 1999d). The Access Fund has also create applied degrees. Applied degrees add one year of classroom instruction and one year of supervised work experience to existing two-year diploma programs offered at colleges and technical institutes (AECD, 1998c). According to *New directions*, "applied degree programs must meet the needs of the learner and the economy, and involve employers in program design, delivery and the costs of the work experience component" (AECD, 1994a, p. 11).

The Intellectual Infrastructure Partnership Program has also provided funding for research initiatives in market-proximate fields. The 1997 I2P2 awards supported:

- a 3-D microscope to aid cancer research;
- laser and detector systems to help develop practical laser-based measurement in natural resource industries;

- high performance computing equipment and technology;
- magnetic resonance spectrometry equipment to advance research into drugs and medical treatment as well as agricultural and environmental technologies; and
- a containment facility for medical research (AECD, 1997l, pp. 1-2).

The projects approved during this round of I2P2 funding included:

- modern laboratories and equipment to research rational drug design;
- labs and equipment to support innovative research in engineering to support "strategic research programs with strong links to industry";
- labs and equipment for agricultural biotechnology research related "to improvements in agricultural methods, water resources and environmental quality"; and
- equipment for "research into and analysis of surface properties of materials used in petrochemical, oilsands and manufacturing industries" (AECD, 1998i, pp. 1–2).

The use of performance-based funding conceptually offloads responsibility for achieving government goals to institutions (ignoring the impact the declining inputs have on institutions' abilities to achieve these goals). This creates an increasingly evaluative role for government. This evidence appears to support the contention that government policy is increasing the alignment of higher education with the needs of the market.

5.5.3 Assessing the evidence

If Alberta's government implemented performance-based funding in order to facilitate the introduction of a broader policy agenda (that is expected to be one of increasing academic capitalism), we would expect:

- The introduction policies that pressure academics and institutions to increasingly engaged in market and market-like behavior (i.e., academic capitalism) by reducing block transfers, increasing use of designated funding and increasing the pressure to develop non-governmental sources of revenue.
- A performance-based funding mechanism that embeds assumptions in its structure and/or in its indicators that pressure institutions to align their activities with the needs of the marketplace.
- The offloading of responsibility for outcomes of higher education of individual institutions and an increasingly evaluative role for government.

Government policies (see Section 5.5.2.2) pressure institutions to engage in market and market-like behavior in order to compensate for declining government funding and secure new sources of government funding (i.e., funding envelopes) as well as non-governmental sources of funding. The very introduction of these policies suggests that government is attempting to advance a broader policy agenda of aligning the activities of higher education with the needs of the marketplace. Further, the implementation of these policies is beginning to cause a growing alignment of institutional activities with the needs of the marketplace (see Section 5.5.2.4 above). This approach is consistent with government statements (see Section 5.5.2.1) that frame higher education primarily as sources of labour-market training as well as knowledge and technology that can be transferred to the private sector.

Performance-based funding encourages institutions to engage in market and market-like behavior by rewarding institutions for achieving these government goals and also by embedding in the structure of the indicators assumptions consistent with academic capitalism. Performance-based funding also has the effect of offloading responsibility for achieving government goals onto institutions (ignoring the impact of declining government funding on institutions' abilities to achieve goals) and results in an increasingly evaluative role for government. Taken together, this evidence suggests that Alberta's government is trying to advance and agenda consistent with academic capitalism and performance-based funding has been implemented to facilitate the introduction of that agenda. This suggests that the fifth research hypothesis is valid.

5.5.4 Assessing the plausibility of the conclusion

As discussed in Chapter Two, Parsons' theory of plausibility can be used to assess the rigor of descriptive inferences. Plausibility is a function of whether the inference is coherent (i.e., does the inference make sense?), consistent (i.e., is the internal reasoning of the inference sound?), comprehensive (i.e., to what degree does the inference encompass the phenomenon and are there competing inferences of equal comprehensiveness) and parsimonious (i.e., is the inference the simplest one that adequately explains the phenomenon).

The conclusion that the government implemented performance-based funding facilitate the introduction of a broader policy agenda is both coherent and

consistent. Alberta has implemented a broad policy agenda that pressures instiutions to align their activities with the needs of the marketplace. The performance-based funding mechanism facilitates this by reinforcing pressure on institutions to align their activities with the needs of the marketplace. There are competing inferences (i.e., the other research hypotheses) but none of these inferred goals are mutually exclusive (i.e., government could have been attempting to achieve multiple goals through the introduction of performance-based funding). Finally, the inference that the government desired facilitate the introduction of a broader policy agenda is the simplest inference that adequately explains the evidence (i.e., both government statements about the goals and processes of performance-based and the impact performance-based funding has on the higher education system) presented in Section 5.2.3 above.

5.6 Performance-based funding legitimating a broader policy agenda

The section explores the evidence that Alberta has implemented performance-based funding to legitimate the introduction of a broader policy agenda. Section 5.6.1 presents the theorized pattern of evidence expected to exist if this hypothesis is true. Section 5.6.2 outlines the relevant evidence presented in the case study. Section 5.6.3 assesses that evidence to determine if it supports the hypothesis. Section 5.6.4 assesses the plausibility of the conclusion.

5.6.1 Theorized pattern of evidence

If Alberta's government implemented performance-based funding in order to legitimate the introduction of a broader policy agenda (expected to be increasing academic capitalism), we would expect:

- A performance-based funding system that creates evidence that growing academic capitalism is having a positive impact through selecting performance indicators that institutions have historically done well on and setting benchmarks that many (if not all) institutions can have success with.
- Goals operationalized in ways that exclude politically difficult issues from discussion.
- The offloading of responsibility for outcomes to individual institutions.

Section 5.6.2 outlines the evidence related to this hypothesis.

5.6.2 Evidence from the case study

The evidence that Alberta's government is introducing a broader policy agenda is presented in section 5.5.2 above. The evidence that the government sought to legitimate the introduction of a broader policy agenda through the introduction of performance based funding is limited. This is not unexpected: if performance-based funding was introduced in order to justify a policy decision, announcing that as the purpose would reduce its ability to achieve that result. Because of this, it is difficult to infer if performance-based funding was introduced to legitimate a the introduction of a broader policy agenda in government documents. It is possible, however, to determine if the introduction of a performance-based funding mechanism has achieved that goal.

According to then-Minister of Advanced Education and career Development Clint Dunford,

> We are proud of the results Alberta's post-secondary institutions have achieved. Our announcement today recognizes and confirms what we have long known to be true... that Alberta has a post-secondary system of high quality (AECD, 1997o, p. 1).

Using KPI data to argue that the system is performing well ignores that government sets the benchmarks indicative of satisfactory or excellent performance (AECD, 1997a); by including indicators that institutions have always done well on and excluding indicators that point out negative outcomes, government can predetermine the results. For example, the Performance Envelope was designed to encourage institutions to achieve the goals laid out in *New directions*. These goals are:

1. *Accessibility*—The system will increase access for motivated Albertans to a diverse range of quality learning opportunities.
2. *Responsiveness*—The system will increase its responsiveness to the needs of the individual learner and to the social, economic and cultural needs of the province.
3. *Affordability*—The system will provide quality learning opportunities to the greatest number of Albertans at the lowest possible cost.
4. *Accountability*—The system will increase its accountability to Albertans for the results of publicly funded learning opportunities (AECD, 1994a, p. 7).

Analyzing the performance indicators used to allocate performance-based funding suggests that not all aspects of these four goals are addressed. For example, the system is to "increase access for motivated Albertans..." (AECD, 1994a, p. 7). Access requires two conditions: the availability of student spaces and the that learners can afford to attend post-secondary education. There is a performance indicator assessing the number of student spaces created, however, there is no performance indicator assessing affordability to students. Both university (UCSU, 1999) and college students (ACTISEC, 1997) have suggested that students are decreasingly able to afford post-secondary education. By excluding this as a measure of system performance, the government is able to produce data that government policies are improving post-secondary education.

A second goal is that the system will "increase its responsiveness to the needs of the individual learner and to the social, economic and cultural needs of the province" (AECD, 1994, p. 7). The Graduate Employment and Graduate Satisfaction indicators measure the performance of the system at delivering economic outcomes, but there are no measures of social or cultural outcomes. This is justified by noting that "...while important, (they) have not been clearly articulated" (AECD, 1996b, p. 6). This explanation seems somewhat disingenuous: the performance indicators were developed and selected by government and, therefore, the absence of performance indicators assessing social and cultural outcomes stems from decisions mad by government.

5.6.3 Assessing the evidence

If Alberta's government implemented performance-based funding in order to legitimate the introduction of a broader policy agenda (expected to be increasing academic capitalism), we would expect:

- A performance-based funding system that creates evidence that growing academic capitalism is having a positive impact through selecting performance indicators that institutions have historically done well on and setting benchmarks that many (if not all) institutions can have success with.
- Goals operationalized in ways that exclude politically difficult issues from discussion.
- The offloading of responsibility for outcomes to individual institutions.

As noted above, it is difficult to find evidence in government documents that performance-based funding was implemented to legitimate the introduction of a broader policy agenda. This reflects that that ability of performance-based funding to achieve this purpose would be compromised by explicitly outlining it. This suggests that examining government documents is not the most appropriate means by which to assess this hypothesis, although, as noted in Chapter two, other means were felt unlikely to yield valid results.

Analyzing government documents may, however, be useful in determining if performance-based funding did serve to legitimate the introduction of a broader policy agenda. What evidence does exist suggests that some outcomes of the government's policy agenda (e.g., rising tuition costs and the impact of policy on the social and cultural outcomes of higher education) are excluded by the performance-based funding mechanism from consideration of the system's performance. Despite this, it is not possible to determine whether or not the sixth research hypothesis is valid.

5.6.4 Assessing the plausibility of the conclusion

As discussed in Chapter Two, Parsons' theory of plausibility can be used to assess the rigor of descriptive inferences. Plausibility is a function of whether the inference is coherent (i.e., does the inference make sense?), consistent (i.e., is the internal reasoning of the inference sound?), comprehensive (i.e., to what degree does the inference encompass the phenomenon and are there competing inferences of equal comprehensiveness) and parsimonious (i.e., is the inference the simplest one that adequately explains the phenomenon). As noted in Section 5.6.3 above, it is not possible to draw a conclusion regarding the sixth research hypothesis and, therefore, it is not necessary to assess the plausibility of the conclusion.

5.7 Summary

This chapter outlined the evidence relevant to each of the six research hypotheses and assessed the evidence to determine whether or not the hypotheses were valid. The analysis presented in Section 5.1 concluded that government did desire to increase institutional accountability but did not implement performance-based funding to achieve that goal. Section 5.2 demonstrated that government did

implemented performance-based funding to increase institutional responsiveness to governmental goals. The analysis presented in Section 5.3 suggests that government did implement performance-based funding to increase institutional productivity, but that government inadequately conceptualized productivity as efficiency. Section 5.4 demonstrated that government did not implement performance-based funding as a politically feasible means to increase government transfers to institutions. section 5.5 concluded that performance-based funding was implemented to facilitate the introduction of a broader policy agenda and that that agenda was consistent with the tenets of academic capitalism. As outlined in Section 5.6, it was not possible to assess whether or not performance-based funding was implemented to legitimate the introduction of a broader policy agenda.

CHAPTER SIX

Conclusion

This section presents the study's conclusions about the goals Alberta's government hoped to achieve by introducing performance-based funding to its higher education system. Section 6.1 outlines the research question and hypotheses. Section 6.2 summarizes the study's conclusions. Section 6.3 explains the study's limitations. Section 6.4 presents directions for future research on this topic.

6.1 Statement of the problem

This study explored the reasons for the introduction of a performance-based funding mechanism in Alberta's higher education system by asking:

1. What goal(s) did the provincial government hope to achieve by introducing performance-based funding to Alberta's higher education system?

Six hypotheses about this question were developed and tested:

1. Performance-based funding has been introduced because it will increase institutional accountability to government.
2. Performance-based funding has been introduced because it will increase institutional responsiveness to governmental goals.
3. Performance-based funding has been introduced because it will increase institutional productivity.
4. Performance-based funding has been introduced because it is a politically feasible means of increasing government transfers to institutions.
5. Performance-based funding has been introduced because it facilitates the introduction of a broader policy agenda.
6. Performance-based funding has been introduced because it legitimates the introduction of a broader policy agenda.

6.2 Conclusions

Chapter Five tested the six research hypotheses against the evidence presented in Chapter Four to determine the validity of each hypothesis. Sections 6.2.1 through 6.2.6 outline the study's conclusions regarding each hypothesis.

6.2.1 Hypothesis One: Increasing institutional accountability

The analysis presented in Chapter Five concluded that the first research hypothesis was not valid (i.e., Alberta's government did not implement performance-based funding to increase institutional accountability to government). While increasing institutional accountability to government was a key government goal, it was achieved through the implementation of the closely related Accountability Reporting Framework.

6.2.2 Hypothesis Two: Increasing institutional responsiveness

The analysis presented in Chapter Five concluded that the second research hypothesis was valid (i.e., Alberta's government did implement performance-based funding to increase institutional responsiveness to governmental goals). Performance-based funding was introduced to act as an incentive for institutions to meet the government-mandated goals outlined in *New directions* by linking funding to institutional performance. The rewards of compliance, while small, are significant in the context of declining funding for post-secondary education and no increases to government grants to deal with the effects of inflation. By linking funding to institutional attainment of government goals, substantive institutional autonomy is curtailed because performance-based funding has the effect of pressuring institutions to maintain or change their performance to meet governmental goals (i.e., performance-based funding is regulation).

6.2.3 Hypothesis Three: Increasing institutional productivity

The analysis presented in Chapter Five concluded that the third research hypothesis was partially valid. Alberta's government did implement performance-based funding to pressure institutions to increase their efficiency but the value-for-money definition of quality used in Alberta's performance-based funding mechanism fails to engage the qualitative aspects embodied in the transformative definition of quality (whereby higher education enables and empowers students in a unique manner unsuited for quantification). Although the mechanism's consideration of quality is inadequate

and may compromise the mechanism's ability to increase productivity (as opposed to simply increasing efficiency), the government's intent was to increase productivity.

6.2.4 Hypothesis Four: Increasing government transfers to institutions

The analysis presented in Chapter Five concluded that the fourth research hypothesis was not valid (i.e., Alberta's government did not implement performance-based funding as a politically feasible means to increase government transfers to institutions). There is only one mention of using performance-based funding in this manner (to compensate for the erosive effects of inflation) and the performance-based funding mechanism costs institutions more than they receive from it.

6.2.5 Hypothesis Five: Facilitating a broader policy agenda

The analysis presented in Chapter Five concluded that the fifth research hypothesis was valid (i.e., Alberta's government did implement performance-based funding to facilitate the introduction of a broader policy agenda). This broader policy agenda was expected to be consistent with that of academic capitalism (i.e., aligning the activities of higher education with the needs of the marketplace).

Government policies (see Section 5.5.2.2) pressure institutions to engage in market and market-like behavior in order to compensate for declining government funding and secure new sources of government funding (i.e., funding envelopes) as well as non-governmental sources of funding. The very introduction of these policies suggests that government is attempting to advance a broader policy agenda of aligning the activities of higher education with the needs of the marketplace. Further, the implementation of these policies is beginning to cause a growing alignment of institutional activities with the needs of the marketplace (see Section 5.5.2.4 above). This approach is consistent with government statements (see Section 5.5.2.1) that frame higher education primarily as sources of labour-market training as well as knowledge and technology that can be transferred to the private sector.

Performance-based funding encourages institutions to engage in market and market-like behavior by rewarding institutions for achieving these government goals and also by embedding in the structure of the indicators assumptions consistent with academic capitalism. Performance-based funding also has the effect of offloading

responsibility for achieving government goals onto institutions (ignoring the impact of declining government funding on institutions' abilities to achieve goals) and results in an increasingly evaluative role for government. Taken together, this evidence suggests that Alberta's government is trying to advance an agenda consistent with academic capitalism and performance-based funding has been implemented to facilitate the introduction of that agenda.

6.2.6 Hypothesis Six: Legitimating a broader policy agenda

The analysis presented in Chapter Five concluded that it was not possible to determine the validity of the sixth research hypothesis based upon the evidence. If government did implement performance-based funding to legitimate aligning the activities of higher education with the market, explicitly outlining this as the purpose would reduce the ability of performance-based funding to achieve this end.

6.3 Limitations

This section outlines the limitations of the study. Section 6.3.1 explores the limitation inherent in relying solely on documents for data. Section 6.3.2 explains the impact of assuming that implementing performance-based funding was a rational activity. Section 6.3.3 outlines the limits on the generalizability of this study.

6.3.1 Using solely documentary evidence

As outlined in Section 2.2.4, this case study used documents as its sole form of data. This decision was made for a number of reasons, including their availability and their stability over time. Supplementing documents analysis with interviews was ruled out because of the expected difficulty in securing them (given the researcher's employment by an advocacy group in the policy community) and concern that key informants would have substantial motivation to consciously or unconsciously revise their recollection of events. This decision made it impossible to accurately assess the validity of the sixth research hypothesis (i.e., that government implemented performance-based funding to legitimate the introduction of a broader policy agenda).

6.3.2 Framing policy making as a rational activity

As noted in Section 3.1, this case study frames the implementation of performance-based funding as a rational activity (i.e., as occurring the pursuit of a goal). This

assumption was made based upon the researcher's belief (as supported in Section 3.1.4) that Alberta's performance-based funding policy network is state directed (i.e., the network is dominated by a strong and autonomous state agency that initiates policy making while weak and uncoordinated interest groups advocate positions, but do not participate in policy making). Policy making in a state-directed policy network is best described as a rational undertaking because government determines the goals it desires and then develops policies and policy instruments to achieve them. If describing policy making as a rational process is deficient (i.e., another, non-rational description is more appropriate), then the study's question—which presupposes government implementing performance-based funding to achieve a purpose—may be deficient.

6.3.3 Generalizability

As noted in Chapter Two, case studies are analytically, rather than statistically, generalizable. That is, the sample and the population are one and the same group. This means that the results of the case are not generalizable to a broader population. For example, this study's conclusions about Alberta's use of performance-based funding is not generalizable to the case of British Columbia. This case is analytically generalizable in that can be used to support or refute broader theories about why performance-based funding is implemented and what it is suited to achieve.

6.4 Directions for future research

Section 6.4.1 through 6.4.3 outline directions for future research.

6.4.1 Assessing the effectiveness of performance-based funding

The purpose of this study was to clarify what goal(s) the government hoped to achieve by implementing performance-based funding in order to facilitate subsequent evaluation of how effective performance-based funding was in achieving them. Given that we now know government sought to increase institutional responsiveness and productivity as well as facilitate the implementation of a broader policy agenda, it is possible to begin assessing the effectiveness of performance-based funding at achieving these goals. Such an assessment would require examining the impact of performance-based funding on one or more institutions with specific attention to institutional goal setting, programming decisions and the alignment of institutional activity with the needs of the marketplace.

One difficulty in assessing the impact of performance-based funding at the institutional level is that it may be inappropriate to frame institutional policy and decision-making as rational activities. As outlined in Chapter Three, there is a substantial body of literature that suggests relationships within institutions are complex and authority is diffuse and this, in turn, reduces the utility of rational descriptions of policy and decision making. This may make determining (and isolating) the institutional outcomes of performance-based funding problematic. Also of concern is the lack of both the opportunity to observe the impact of performance-based funding in operation and documentary evidence of this process. In order to assess the effectiveness of performance-based funding at achieving the government's goals, these issues will need to be dealt with in the research design.

6.4.2 Comparative analysis of the goals of performance-based funding

Comparing the goals that governments in different jurisdictions seek to achieve by implementing performance-based funding and the role of performance-based funding in governments' broader policy agendas would be a useful exercise. Such analysis would shed light on what factors contributed to or hindered the effectiveness of performance-based funding at achieving these goals. Alternately, analysis might explore the broader circumstances or factors that make performance-based funding an attractive policy instrument for governments.

6.4.3 Typology of embedded assumptions

The typology of assumptions commonly embedded in performance indicators that was presented in Chapter Three is very preliminary. A thorough study of various performance indicators systems—assessing not only the assumptions embedded in various indicators but also the interactions between indicators within a system—would be a useful analytical tool. This would assist policy makers, administrators and faculty in developing, refining and/or resisting the use of performance indicators.

REFERENCES

ACIFA. (1998). Response to the review of the Performance Envelope. September. Edmonton: Alberta Colleges & Institutes Faculties Association.

ACIFA & CAFA. (1998). Brief to the Standing Policy Committee on Education and Training. March 16. Edmonton: Alberta Colleges & Institutes Faculties Association and the Confederation of Alberta Faculty Associations.

ACTISEC. (1997). Zero Hour: A submission to the Senate Subcommittee on Post-Seocndary Education. Regina.

ACTISEC. (1998). Response to the review of the Performance Envelope. September. Calgary: Alberta College and Technical Institute Students' Executive Council.

AECD. (1992). *For of our futures: Strategies for the future of post-secondary education in Alberta*. December. Edmonton: Advanced Education and Career Development, Strategic Options Task Force.

AECD. (1993). *Accountability: Expectations of the public post-secondary system*. Discussion paper. October. Edmonton: Advanced Education and Career Development

AECD. (1994a). *New directions for adult learning in Alberta*. November. Edmonton: Advanced Education and Career Development.

AECD. (1994b). *An agenda for change*. Draft White Peper. March 30. Edmonton: Advanced Education and Career Development.

AECD. (1994c). *Profile and trends*.Background discussion paper. March 30. Edmonton: Advanced Education and Career Development.

AECD. (1995a). Institutional accountability in Alberta's post-secondary system. February 9. Edmonton: Advanced Education and Career Development.

AECD. (1995b). Funding methods options. February 16. Edmonton: Advanced Education and Career Development.

AECD. (1995c). University research in Alberta: A policy framework. Edmonton: Advanced Education and Career Development.

AECD. (1995d). A proposed performance-based mechanism for Alberta's public post-secondary system. June 26. Edmonton: Advanced Education and Career Development.

AECD. (1995e). Public post-secondary institutions funding mechanism consultation. September 21. Edmonton: Advanced Education and Career Developpment.

AECD. (1996a). Encouraging excellence and rewarding success in Alberta's public adult learning system: A proposal for implementing a performance funding envelope. December. Edmonton: Advanced Education and Career Development.

AECD. (1996b). Enhancing Alberta's adult learning system through technology: Policy guidelines and procedures for the Learning Enhancement Envelope. June 17. Edmonton: Advanced Education and Career Development.

AECD. (1996c). Over 10,000 new places created in the post-secondary education system, Access Fund exceeds goals. Press release. March 29. Edmonton: Advanced Education and Career Development.

AECD. (1996d). Access fund exceeds goal: Over 10,000 new places created. *Innovations in adult learning*. Edmonton: Advanced Education and Career Development. 4–5.

AECD. (1996e). Alberta colleges and technical institutes: Key performance indicators reporting manual. November. Edmonton: Advanced Education and Career Development.

AECD. (1996f). Alberta universities: Key performance indicators reporting manual. November. Edmonton: Advanced Education and Career Development.

AECD. (1996g). Fostering excellence: A policy framework for Alberta's university research system. Edmonton: Advanced Education and Career Development.

AECD. (1996h) Jack. W. Ady announces a policy framework for Alberta's university research system. Edmonton: Advanced Education and Career Development.

AECD. (1996i). LEE guidelines. Edmonton: Advanced Education and Career Development. www.aecd.gov.ab.ca.

AECD. (1996j). Benchmarks for Alberta's post-secondary education system: A discussion paper. July. Edmonton: Advanced Education and Career Development.

AECD. (1996k). $23 million to post-secondary education institutions for infrastructure renewal. Press release. June 17. Edmonton: Advanced Education and Career Development.

AECD. (1996l). Over 10,000 new places created in the post-secondary education system, Access Fund exceeds goals. Backgrounder. March 29. Edmonton: Advanced Education and Career Development.

AECD. (1997a). Minister's forum on adult learning. Briefing materials. Edmonton: Advanced Education and Career Development.

AECD. (1997b). *1996/97 annual report*. Edmonton: Advanced Education and Career Development.

AECD. (1997c). Dunford makes second round allocations, Learning Enhancement Envelope. Press release. December 17. Edmonton: Advanced Education and Career Development.

AECD. (1997d). General facilities evaluation. Edmonton: Advanced Education and Career Development.

AECD. (1997e). $105 million for infrastructure renewal for Alberta universities, public colleges and technical institutes. Press release. August 14. Edmonton: Advanced Education and Career Development.

AECD. (1997f). Intellectual Infrastructure Partnership Program will strength research excellence and competitiveness of universities and research hospitals. Press release. October 14. Edmonton: Advanced Education and Career Development.

AECD. (1997g). 1997/98 Research Excellence Envelope reporting guidelines. Edmonton: Advanced Education and Career Development.

AECD. (1997h). Rewarding progress towards goals: Highlights of Alberta's performance envelope funding. July 31. Edmonton: Advanced Education and Career Development.

AECD. (1997i). Performance envelope consultations—feedback. March 19. Edmonton: Advanced Education and Career Development.

AECD. (1997j). $105 million for infrastructure renewal for Alberta universities, public colleges and technical institutes. Press release. August 14. Edmonton: Advanced Education and Career Development.

AECD. (1997k). Intellectual Infrastructure Partnership Program. Backgrounder. October 14. Edmonton: Advanced Education and Career Development.

AECD. (1997l). Provincial research funding supports universities and economy. Press release. December 18. Edmonton: Advanced Education and Career Development.

AECD. (1997m). The key performance indicators used for the allocation of funding from the Performance Envelope. Briefing notes. July 31. Edmonton: Advanced Education and Career Development.

AECD. (1997n). New performance funding rewards progress towards goals in post-secondary education. Press release. July 31. Edmonton: Advanced Education and Career Development.

AECD. (1997o). Speaking notes for the Honourable Clint Dunford, Performance Envelope Press Conference. July 31. Edmonton: Advanced Education and Career Development.

AECD. (1998a). *1997/98 annual report*. Edmonton: Advanced Education and Career Development.

AECD. (1998b). Premier's commitment to "people development" boosts funding for students and institutions. Press release. January 9. Edmonton: Advanced Education and Career Development

AECD. (1998c). Applied degree evaluation advisory committee: Report and recommendations. July. Edmonton: Advanced Education and Career Development.

AECD, (1998d). Minister approved applied degree continuation. October 16. Edmonton: Advanced Education and Career Development.

AECD. (1998e). *1998-2001 business plan*. Edmonton: Advanced Education and Career Development.

AECD. (1998f). Government reinvests $95 million in post-secondary. Press release. January 10. Edmonton: Advanced Education and Career Development.

AECD. (1998g). $15 million rewards post-secondary excellence. Press release. June 30. Edmonton: Advanced Education and Career Development.

AECD. (1998h). Adult learning institutions to receive $20 million in Knowledge Network grants. Press release. July 9. Edmonton: Advanced Education and Career Development.

AECD. (1998i). Government invests $19.8 million in research projects at universities. Press release. November 23. Edmonton: Advanced Education and Career Development.

AECD. (1998j). Accountability and Alberta's changing governance structure. Presentation slides. March 26. Victoria: Advanced Education and Career Development.

AECD. (1999a). Revised Performance Envelope model: A discussion paper prepaed for consultation. May. Edmonton: Advanced Education and Career Development.

AECD. (1999b). Access fund guide: For program expansions beginning in 2000/01 funded by the Access Fund. March. Edmonton: Advanced Education and Career Development.

AECD. (1999c). Albertans' access to library resources and information getting easier. Press release. January 21. Edmonton: Advanced Education and Career Development.

AECD. (1999d). Province expands high-tech diploma and degree programs. Press release. February 9. Edmonton: Advanced Education and Career Development.

Albert, M. & Hahnel, R. (1991). *Looking forward: Participatory economics for the twenty-first century*. Boston: South End.

Alberta Political Scan. (1999). Lakeland RHA Board replaced. 227. 1–2.

Albright, B.N. & Gilleland, D.S. (1994). A clean slate: Principles for moving to a value-driven higher education funding model. In R.M. Epper (ed.) *Focus on the budget: Rethinking current practice, state policy and college learning*. Denver: Education Commission of the States. 7–22. ERIC Document Reproduction Service. ED 375 790.

Apple, M.W. (1998). Are markets and standards democratic? *Educational researcher*. 27 (6). 24–28.

Archer, K. (1992). Voting behaviour and political dominance in Alberta, 1971–1991. In A. Tupper and R. Gibbins (eds.) *Government and politics in Alberta*. Edmonton: University of Alberta Press. 109–136.

Archer, K. & Gibbins, R. (1997). What do Albertans think? The Klein agenda on the public opinion landscape. In C.J. Bruce, R.D. Kneebone & K.J. McKenzie (eds.) *A government reinvented: A study of Alberta's deficit elimination program*. Toronto: Oxford University Press. 462–485.

Archer, K., Gibbins, R., Knopff, R. & Pal, L.A. (1999). *Parameters of power: Canada's political institutions*. Toronto: Nelson.

Ashworth, K.H. (1994). Performance-based funding in higher education: The Texas case study. *Change*. November/December. 8–15.

Aucoin, P. (1990). Administrative reform in public management: Paradigms, principles, paradoxes and pendulums. *Governance: An international journal of policy and administration*. 3 (2). 115–137.

Aucoin, P. (1995). Politicians, public servants and public management: getting government right. In B.G. Peters & D.J. Savoie (eds.) *Governance in a changing environment*. Montreal: Canadian Centre for Management Development and McGill-Queen's University Press. 113–137.

Auditor General of Canada. (1993). Report of the Auditor general of Canada in the House of Commons. Ottawa: Minister of Supply and Services Canada. Chapter Six. 159–185

Baldridge, J.V. (1971a). *Academic governance: research on institutional politics and decision-making*. Berkeley: McCutchan.

Baldridge, J.V. (1971b). *Power and conflict in the university: Research in the sociology of complex organizations*. Toronto: John Wiley & Sons.

Baldridge, J.V., Curtis, D.V., Ecker, G. & Riley, G.L. (1978). *Policy making and effective leadership: A national study of academic decision-making*. San Francisco: Jossey-Bass.

Banta, T.W. (1993). Summary and conclusion: Are we making a difference? In T.W. Banta (ed.) *Making a difference: Outcomes of a decade of assessment in higher education*. San Francisco: Jossey-Bass. 357–376.

Banta, T.W. & Borden, V.M.H. (1994). Performance indicators for accountability and improvement. In V.M.H. Borden and T.W. Banta (eds.) Using performance indicators to guide strategic decision-making. *New directions for institutional research*. 82. 95–106).

Banta, T.W., Rudolph, L.B., Van Dyke, J. & Fisher, H.S. (1996). Performance funding comes of age in Tennessee. *Journal of higher education*. 67 (1). 23–45.

Bardwick, J.M. (1995). *Danger in the comfort zone: From boardroom to mailroom—how to break the entitlement habit that's killing American business, 2nd Ed.* Toronto: AMACOM.

Barnetson, R.J. (1999). A review of Alberta's performance-based funding mechanism. *Quality in higher education*. 5 (1). 47–61.

Barnett, R. & Middlehurst, R. (1993). The lost profession. *Higher education in Europe*. 18 (2). 110–128.

Bateman, M. & Elliott, R.W. (1994). An attempt to implement performance-based funding in Texas higher education: A case study. In R.M. Epper (ed.) *Focus on the budget: Rethinking current practice, state policy and college learning*. Denver: Education Commission of the States. 41–52. ERIC Document Reproduction Service. ED 375 790.

Birnbaum, R. (1988). *How colleges work: The cybernetics of academic organizations and leadership*. San Francisco: Jossey-Bass.

Blank, R.K. (1993). Developing a system of education indicators: Selecting, implementing and reporting indicators. *Educational evaluation and policy analysis*. 15. 65–80.

Bogue, E.G. (1982). Allocation of public funds on instructional performance/quality indicators. *International journal of institutional management in higher education*. 6 (1). 37–47.

Borden, V.M.H. & Bottrill, K.V. (1994). Performance indicators: History, definitions and methods. In V.M.H. Borden and T.W. Banta (eds.). Using performance indicators to guide strategic decision making. *New directions for institutional research*. 82. 5–21.

Bowman, R. & Snowdon, F. (1997). Quiet please: indicators at work. Paper presented at the Annual AIR Forum.Orlando. May 18. ERIC Document Reproduction Services ED 428 622.

Brooke, J.H. (1991). *Science and religion: Some historical perspectives.* New York: Cambridge University Press.

Brown, M.A. & Wolf, D.M. (1993). Allocating budgets using performance criteria. In P.G. Altbach & D.B. Johnstone (eds.) *The funding of higher education: International perspectives.* New York: Garland. 173–187.

Brown, P. & Lauder, H. (1996). Education, globalization and economic development. *Journal of education policy.* 11 (1). 1–25.

Buchbinder, H. & Newson, J. (1988). Managerial consequences of recent changes in university funding policies: A preliminary view of the British case. *European journal of education.* 23 (1/2). 151–165.

Buchbinder, H. & Newson, J. (1990). Corporate-university linkages in Canada: Transforming a public institution. *Higher education.* 20. 355–379.

Burke, J. C. (1998). Performance funding: Arguments and answers. In J. C. Burke and A.M. Serban (eds.) *Performance funding for public higher education: Fad or trend?* New directions for institutional research. 97. 85–90.

Burke, J.C. (1999). Arguments about performance funding: Rhetoric and reality. Paper presented at the 39th Annual AIR Forum. Seattle, May 31.

Burke, J.C. & Serban, A.M. (1997). *Performance funding and budgeting for public higher education: Current status and future prospects.* Albany: Rockerfeller Institute of Government.

Burke, J.C. & Serban, A.M. (1999). State synopses of performance funding programs. In J.C Burke & A.M. Serban (eds). *Performance funding for public higher education: Fad or trend?* New directions for institutional research. 97. 25–48.

CAFA. (1998a). Response to review of the Performance Envelope. September. Edmonton: Confederation of Alberta Faculty Associations.

CAFA. (1998b). Funding increases tighten situation. *CAFA report.* 13 (3). 3.

CAFA. (1999). Accountability: Its structure and measurement in post-secondary education in Alberta. Report. April. Edmonton: Confederation of Alberta Faculty Associations.

Capra, F. (1983). *The turning point: Science, society and the rising culture.* Toronto: Bantum.

Capra, F. (1996). *The web of life: A new scientific understanding of living systems*. Toronto: Anchor.

Carter, N. (1989). Performance indicators: Backseat driving or hands off control? *Policy and politics*. 17 (2). 131–138.

Caruthers, J.K., Marks, J.L. & Walker, J.K. (1994). Important safeguards in funding processes for public higher education. In R.M. Epper (ed.) *Focus on the budget: Rethinking current practice, state policy and college learning*. Denver: Education Commission of the States. 53–63. ERIC Document Reproduction Service. ED 375 790.

Cassin, A.M. & Morgan, J.G. (1992). The professoriate and the market-driven university: transforming the control of work in the academy. In W.K. Carroll, L. Christian-Ruffman, R.F. Currie & D. Harrison (eds.). *Fragile truths: Twenty-five years of sociology and anthropology in Canada*. Ottawa: Carleton University Press. 247–260.

Castles, F.G. (1996). On the credulity of capital: Or why globalization does not prevent variations in domestic policy making. *Australian quarterly*. 68 (2). 65–74.

Cave, M., Hanney, S., Henkel, M. & Kogan, M. (1997). *The use of performance indicators in higher education: The challenges of the quality movement, 3rd Ed.* London: Jessica Kingsley.

Chaffee, E.E. (1983). *Rational decision making in higher education*. Boulder: National Center for Higher Education Management Systems.

Cibulka, J.G. & Derlin, R.L. (1998). Authentic education accountability policies: Implementation of state initiatives in Colorado and Maryland. In R.J.S. Macpherson (ed.) *The politics of accountability: Educative and international perspectives*. Thousand Oaks: Sage. 79–92.

Clotfelter, C.T. & Ladd, H.F. (1996). Recognizing and rewarding success in public schools. In H.F. Ladd (ed.) *Holding schools accountable: Performance-based reform in education*. Washington: Brookings Institute. 23–64.

Cohen, M.D., March, J.G. & Olsen, J.P. (1972). A garbage-can model of organizational choice. *Administrative science quarterly*. 17. 1–25.

Coleman, W.D. & Skogstad, G. (1990). Policy communities and policy networks: A structural approach. In W.D. Coleman & G. Skogstad (eds.). *Policy communities and public policy in Canada: A structural approach*. Mississauga: Copp Clark Pittman. 14–33.

Cooper, D. & Neu, D. (1995). The politics of debt and deficit in Alberta. In T. Harrison and G. Laxer (eds.) *The Trojan horse: Alberta and the future of Canada*. Montreal: Black Rose.

Coulter, W.R. & Moore, A.H. (1987). Utilization of performance indicators for financing at state-level in the United States: The Ohio case. *International journal of institutional management in higher education*. 11 (2). 195–207.

Cutright, M. (1997). Planning in higher education and chaos theory: A model, a method. Paper presented at the Education Policy Research Conference. Oxford, March 15.

Darling-Hammond, L. (1992). Educational indicators and enlightened policy. *Educational policy*. 6 (3). 235–265.

Delandshere, G. & Perosky, A. (1998). Assessment of complex performances: Limitations of key measurement assumptions. *Educational researcher*. 27 (2). 14–22.

Deming, W.E. (1986). *Out of crisis*. Cambridge: MIT.

Denis, C. (1995). The new normal: Capitalist discipline in Alberta in the 1990s. In T. Harrison and G. Laxer (eds.) *The Trojan horse: Alberta and the future of Canada*. Montréal: Black Rose Books. 86–100.

DesRosiers, E. (1993). An information framework linking educational outcomes to economic renewal. In A. Naimark (ed.) *Measuring up: Using indicators to manage change*. Vol. 2. Winnipeg: AUCC. 3–21.

Dochy, F.J.R.C., Segers, M.S.P. & Wijnen, W.H.F.W. (1990). *Management information and performance indicators in higher education: An international issue*. Netherlands: Van Gorcum.

Dolbeare, K.M. & Medcalf, L.J. (1988). *American ideologies today: From neopolitics to new ideas*. New York: Random House.

Dominelli, L. & Hoogvelt, A. (1996). Globalization, contract government and the Taylorization of intellectual labor in academia. *Studies in political economy*. 49. 71–100.

Dooris, M.J. & Teeter, D.J. (1994). Total quality management perspective on assessing institutional performance. In V.M.H. Borden and T.W. Banta (eds.) Using performance indicators to guide strategic decision making. *New directions for institutional research*. 82. 51–62.

Drugge, S. (1995). The Alberta tax advantage: Myth and reality. In T. Harrison and G. Laxer. *The Trojan horse: Alberta and the future of Canada*. Montreal: Black Rose.

Dudley, J. (1998). Globalization and economic policy in Australia. In J. Currie & J. Newson (eds.) *Universities and globalization: Critical perspectives*. Thousand Oaks: Sage. 21–44.

Duncan, L. (1997). Deputy Minister of Advanced Education and Career Development. Private meeting. November 7.

Duncan, L. (1998). Deputy Minister of Advanced Education and Career Development. Private meeting. September 17.

Dunford, C. (1998). Minister of Advanced Education and Career Development. Private meeting. September 17.

Dupré, J.S. (1987). *Post-secondary operating grants in Alberta: An equity study*. Report. November 30. Edmonton: Alberta Advanced Education.

Dyck, R. (1997). *Provincial politics in Canada: Towards the turn of the century, 3rd Ed.* Scarborough: Prentice-Hall.

Elmore, R.F. (1979/80). Backwards mapping: Implementing research and policy decisions. *Political science quarterly*. 94 (4). 601–616.

Elmore, R.F., Abelmann, C.H. & Fuhrman, S.H. (1996). The new accountability in state education reform: From process to performance. In H.F. Ladd (ed.) *Holding schools accountable: Performance-based reform in education*. Washington: Brookings Institute. 25–98.

Elton, L. (1988). Accountability in higher education: The dangers of unintended consequences. *Higher education*. 17. 377–390.

Emberley, P.C. (1996). *Zero tolerance: Hot button politics in Canada's universities*. Toronto: Penguin.

Emery, J.C.H. (1997). New directions? Government spending cuts and Alberta's institutional resilience in advanced education. in C.J. Bruce, R.D. Kneebone & K.J. McKenzie (eds.) *A government reinvented: A study of Alberta's deficit elimination program*. Toronto: Oxford University Press. 340–368.

Epper, R.M. (1994). Introduction. In R.M. Epper (ed.) *Focus on the budget: Rethinking current practice, state policy and college learning*. Denver: Education Commission of the States. 1–6. ERIC Document Reproduction Service. ED 375 790.

Ewell, P.T. (1987). *Assessment, accountability and improvement: Managing the contradictions*. American Association for Higher Education Assessment Forum. ERIC Document Reproduction Service. ED 287 330.

Ewell, P.T. (1990). *Assessment and the 'New Accountability': A challenge for higher education's leadership*. Denver: Education Commission of the States. 104–116.

Ewell, P.T. (1994). Developing state-wide performance indicators for higher education. In S.S. Ruppert (ed.) *Charting higher education accountability: A sourcebook for state-level performance indicators*. Denver: Education Commission of the States. 147–165.

Ewell, P.T. & Jones, D.P. (1994a). Pointing the way: Indicators as policy tools in higher education. In S.S. Ruppert (ed.) *Charting higher education accountability: A sourcebook on state-level performance indicators*. Denver: Education Commission of the States. 6–16.

Ewell, P.T. & Jones, D.P. (1994b). Data, indicators and the National Centre for Higher Education Management Systems. In V.M.H. Borden & T.W. Banta (eds.) Using performance indicators to guide strategic decision making. *New Directions for institutional research*. 82. 23–36.

Folger, J. & Jones, D. (1993). *Use of fiscal policy to achieve states' educational goals*. Boulder: National Center for Higher Education Management Systems.

Frackman, E. (1987). Lessons to be learnt from a decade of discussions on performance indicators. *International journal of institutional management in higher education*. 11 (2). 149–162.

Freeman, T.W. (1995). Performance indicators and assessment in the State University of New York system. In G.H. Gaither (ed.) Assessing performance in an age of accountability: Case studies. *New directions for higher education* 91. 25–49.

Fürstenbach, J. (1993). University strategies for the third stream of income. In P.G. Altbach & D.B. Johnstone (eds.) *The funding of higher education: International perspectives*. New York: Garland. 45–59.

Gaither, G., Nedwek, B.P. & Neal, J.E. (1994). *Measuring up: The promise and pitfalls of performance indicators in higher education*. ASHE-ERIC Higher Education Report No. 5. ERIC Document Reproduction Service. ED 383 279.

George, P.J. & McAllister, J.A. (1995). The expanding role of the state in Canadian universities: Can university autonomy be reconciled? *Higher education management*. 7 (3). 309–321.

Gibbins, R. & Youngman, L. (1996). *Mindscapes: Political ideologies towards the 21st century*. Toronto: McGraw-Hill.

Gill, J. & Saunder, L. (1992). Conducting policy analysis in higher education. In J. Gill & L. Saunders. (eds.) Developing effective policy analysis in higher education. *New directions for institutional research*. 76. 15–27.

Government of Alberta. (1983). *A report on Alberta elections, 1905-1982*. December. Edmonton: Office of the Chief Electoral Officer.

Government of Alberta. (1992). *Towards 2000 together: A discussion paper on Alberta's economic options and choices*. Edmonton: Author.

Government of Alberta. (1993). *Seizing opportunity: Alberta's new economic development strategy*. Edmonton: Author.

Government of Alberta. (1994). *A better way: A plan for securing Alberta's future*. February 24. Edmonton: Author.

Government of Alberta. (1997). *People and prosperity: A human resource strategy for Alberta*. February, Edmonton: Author.

Government of Alberta. (1998). *Measuring up: Fourth annual report on the performance of the Government of Alberta, 1997-98 results*. Edmonton: Alberta Treasury.

Graham, P.A., Lyman, R.W., Trow, M. & Fusco, T. (1995). *Accountability of colleges and universities: An essay*. New York: Columbia University. ERIC Document Reproduction Service. ED 390 331.

Greider, W. (1997). *One world, ready or not: The manic logic of global capitalism*. New York: Simon and Schuster.

Guba, E.G. & Lincoln, Y.S. (1994). Competing paradigms in qualitative research. In N.K. Denzin & Y.S. Lincoln (eds.) *Handbook of qualitative research*. Thousand Oaks: Sage. 105–117.

Harman, K.M. (1990). Culture and conflict in academic organizations: Symbolic aspects of university worlds. *Journal of educational administration*. 27 (2). 3–54.

Harrison, T. (1995a). The Reform-ation of Alberta politics. In T. Harrison and G. Laxer (eds.) *The Trojan horse: Alberta and the future of Canada*. Montréal: Black Rose Books. 47–60.

Harrison, T. (1995b). Making the trains run on time: Corporatism in Alberta. In T. Harrison and G. Laxer (eds.) *The Trojan horse: Alberta and the future of Canada*. Montréal: Black Rose Books. 118–132.

Harrison, T. (1995c). *Of passionate intensity*. Toronto: University of Toronto Press..

Harrison, T. & Laxer, G. (1995). Introduction. In T. Harrison and G. Laxer (eds.) *The Trojan horse: Alberta and the future of Canada*. Montréal: Black Rose Books. 1–22.

Harvey, L. (1995). The new collegialism; improvement in accountability. *Tertiary education and management*. 2(2). 153–160.

Harvey, L. & Green, D. (1993). "Defining quality." *Assessment and evaluation in higher education*. 18(1) pp. 9–34.

Harvey, L. & Knight, P. (1996). *Transforming higher education*. Buckingham: The Society for Research into Higher Education and Open University Press.

Hawkesworth, M.E. (1988). *Theoretical issues in policy analysis*. New York: State University of new York Press.

Hogwood, B.W. & Gunn, L.A. (1984). *Policy analysis for the real world*. New York: Oxford University Press.

Holland, B.A. & Berdahl, R.O. (1990). Green carrots: A survey of state use of fiscal incentives for academic quality. Paper presented at the Annual General Meeting of the Association for the Study of Higher Education. Nov. 1–4. Portland.

Horsburgh, M. (1998). Quality monitoring in two institutions: A comparison. *Quality in higher education* 4 (2). 155–135.

Hulme, G. (1988). Questions for discussion. In D. Beeton (ed.) *Performance measurement: Getting the concepts right*. London: Public Finance Foundation. 2–4.

Ingram, E.J. (1996). *Quick march backwards: The Neoconservative option*. Edmonton: Unpublished manuscript.

Jeffery, B. (1999). *Hard right turn: The new face of neoconservativism in Canada*. Toronto: Harper Collins.

Jessop, B. (1993). Towards a Schumpeterian workfare state? Remarks on post-Fordist political economy. *Studies in political economy*. 40. 7–39.

Johnstone, D.B. (1998). Patterns of finance: Revolution, evolution or more of the same. *Review of higher education*. 21 (3). 245–255.

Jones, D.P. (1982). *Data and information for executive decisions in higher education*. Boulder: National Center for Higher Education Management Systems.

Jongbloed, B.W.A. & Westerheijden, D.F. (1994). Performance indicators and quality assessment in European higher education. In V.M.H. Borden & T.W. Banta (eds.) Using performance indicators to guide strategic decision making. *New Directions for institutional research*. 82. 37–50.

Kaufman, R. (1988). Preparing useful performance indicators. *Training and development journal*. September. 80–83.

Kells, H. (1992). *Self-regulation in higher education: A multinational perspective on collaborative systems of quality assurance and control*. London: Jessica Kingsley.

Kenis, P. & Schneider, V. (1989). Policy networks and policy analysis: Scrutinizing a new analytical tool box. In B. Marin & R. Mayntz (eds.). *Policy networks: Empirical evidence and theoretical considerations*. Boulder: Westview. 25–59.

Kieron, D. (1998). Chair, Private Colleges Accreditation Board, Advanced Education and Career Development. Private meeting. November 27. Edmonton.

Kincheloe, J.L. (1991). *Teachers and researchers: Qualitative inquiry as a path to empowerment*. New York: Falmer Press.

King, G., Keohane, R.O. & Verba, C. (1994). *Designing social inquiry: Scientific inference in qualitative research*. Princeton: Princeton University Press.

Kingdon, J.W. (1984). *Agendas, alternatives and public policies*. Toronto: Little, Brown and Company.

Klein, R. & Carter, N. (1988). Performance measurement: A review of concepts and issues. In D. Beeton (ed.) *Performance measurement: Getting the concepts right*. London: Public Finance Foundation.

Klein, R. (1996). Text of Premier Ralph Klein's speech to the 1996 Bomex Convention. October. www.gov.ab.ca.

Kneebone, R.D. (1997). Institutional design and public policy: A macroeconomic perspective. In C.J. Bruce, R.D. Kneebone & K.J. McKenzie (eds.) *A government reinvented: A study of Alberta's deficit elimination program*. Toronto: Oxford University Press. 130–168.

Kneebone, R.D. & McKenzie, (1997). The process behind institutional reform in Alberta. In C.J. Bruce, R.D. Kneebone & K.J. McKenzie (eds.) *A government reinvented: A study of Alberta's deficit elimination program*. Toronto: Oxford University Press. 176–210.

Kogan, M. (1986). *Education accountability: An analytic overview*. London: Hutchinson.

Labaree, D.F. (1998). Educational researchers: Living with a lesser form of knowledge. *Educational researcher*. 27 (8). 4–12.

Lang, D. (1993). Report of the COU committee on accountability. In A. Naimark (ed.) *Measuring up: Using indicators to manage change*. Vol. 2. Winnipeg: AUCC. 22–59.

Lang, D. (1999). Similarities and differences: A case study in measuring diversity and selecting peers in higher education. *CSSHE Professional File*. Spring. Winnipeg: Canadian Society for the Study of Higher Education.

Laxer, G. (1995). The privatization of public life. In T. Harrison and G. Laxer (eds.) *The Trojan horse: Alberta and the future of Canada*. Montréal: Black Rose Books. 101–117.

Laxer, J. (1997). *In search of a new Left: Canadian politics after the Neoconservative assault*. Toronto: Penguin.

Layzell, D.T. (198). Linking performance to funding outcomes for public institutions of higher education: The US experience. *European journal of education*. 33 (1). 103–112.

Layzell, D.T. & Caruthers, J.K. (1995). Performance funding at the state level: Trends and prospects. Paper presented at the Annual Meeting of the Association for the Study of Higher Education. Nov. 2. Orlando. ERIC Document Reproduction Service. ED 391 406.

Lincoln, Y.S. & Guba, E.G. (1983). *Naturalistic inquiry*. Newbury Park: Sage.

Lindquist, E. (1992). Public managers and policy communities: Learning to meet new challenges. *Canadian public administration*. 35 (2). 127–159.

Linke, R.D. (1992). Some principles for application of performance indicators in higher education. *Higher education management*. 4(2). 194–203.

Lisac, M. (1995). *The Klein revolution*. Edmonton: NeWest Press.

Lucas, C.J. (1998). *Crisis in the academy: Rethinking higher education in America*. New York: St. Martin's.

Lundy, K.L.P. & Warme, B.D. (1989). Part-time faculty: Student perceptions and experiences. *Canadian journal of higher education*. 19 (2). 73-85.

Lundy, K.L.P. & Warme, B.D. (1990). Gender and career trajectory: The case of part-time faculty. *Studies in higher education*. 15 (2). 207-222.

Majchrzak, A. (1984). *Methods for policy research*. Beverly Hills: Sage.

Mansell, P.L. (1997). Fiscal restructuring in Alberta: An overview. In C.J. Bruce, R.D. Kneebone & K.J. McKenzie (eds.) *A government reinvented: A study of Alberta's deficit elimination program*. Toronto: Oxford University Press. 16–73.

March, J.G. (1976). The technology of foolishness. In J.G. March & J.P. Olsen (eds.) *Ambiguity and choice in organizations*. Oslo: Universiteforlaget. 69–81.

March, J.G. & Olsen, J.P. (1976a). Organizational choice under ambiguity. In J.G. March & J.P. Olsen (eds.) *Ambiguity and choice in organizations*. Oslo: Universiteforlaget. 10–23.

March, J.G. & Olsen, J.P. (1976b). Organizational learning and the ambiguity of the past. In J.G. March & J.P. Olsen (eds.) *Ambiguity and choice in organizations*. Oslo: Universiteforlaget. 54–68.

Marino, J. (1995). Clear cutting in the groves of academe. In T. Harrison and G. Laxer (eds.) *The Trojan horse: Alberta and the future of Canada*. Montréal: Black Rose Books. 209–222.

Marshall, J. & Peters, M. (1990). The insertion of New Right thinking in education: An example from New Zealand. *Journal of educational policy*. 5(2). 143–156.

Massy, W.F. (1996a). Introduction. In W.F. Massy (ed.) *Resource allocation in higher education*. Ann Arbor: University of Michigan Press. 1–13.

Massy, W.F. (1996b). Reengineering resource allocation systems. In W.F. Massy (ed.) *Resource allocation in higher education*. Ann Arbor: University of Michigan Press. 15–47.

Massy, W.F. (1996c). productivity issues in higher education. In W.F. Massy (ed.) *Resource allocation in higher education*. Ann Arbor: University of Michigan Press. 49–86.

Massy, W.F. & Hulfactor, M.C. (1993). Optimizing allocation strategy. In P.G. Altbach & D.B. Johnstone (eds.) *The funding of higher education: International perspectives*. New York: Garland. 25–44.

Masuch, M. & LaPotin, P. (1989). Beyond garbage cans: An AI model of organizational choice. *Administrative science quarterly*. 34. 38–67.

McClellan, S. (1998). Minister for Community Development, Government of Alberta. Private meeting. Edmonton, February 24.

McDonnell, L.M. (1994). Assessment policy as persuasion and regulation. *American journal of education*. 102. 394–420.

McDonnell, L.M. & Elmore, R.F. (1987). *Alternative policy instruments*. Santa Monica: The RAND Corporation.

McKenzie, K.J. (1997). Institutional design and public policy: A microeconomic perspective. In C.J. Bruce, R.D. Kneebone & K.J. McKenzie (eds.) *A government reinvented: A study of Alberta's deficit elimination program*. Toronto: Oxford University Press. 77–123.

McMillian, M.L. & Warrack, A.A. (1995). One-track (thinking) towards deficit reduction. In T. Harrison & G. Laxer (eds.) *The Trojan horse: Alberta and the future of Canada*. Montreal: Black Rose.

McMurty, J. (1998). *Unequal freedoms: The global market as an ethical system*. Toronto: Garamond.

Mentkowski, M., Astin, A.W., Ewell, P.T. & Moran, E.T. (1991). *Catching theory up with practice: Conceptual frameworks for assessment*. Washington: American Association for Higher Education.

Merriam, S.B. (1988). *Case study research in education: A qualitative approach*. San Francisco: Jossey-Bass.

Middlehurst, R. (1997). Reinventing higher education: The leadership challenge. *Quality in higher education*. 3 (2). 183–198.

Middlehurst, R. & Woodhouse, D. (1995). Coherent systems for external quality assurance. *Quality in higher education*. 1 (3). 257–268.

Moch, M.K. & Pondy, L.R. (1977). The structure of chaos: Organized anarchy as a response to ambiguity. *Administrative science quarterly*. 22. 351–362.

Morgan, G. (1997). *Images of organizations, 2nd Ed.* London: Sage.

Murphy, J. (1995). Workfare will make your free: Ideology and social policy in Klein's Alberta. In T. Harrison and G. Laxer (eds.) *The Trojan horse: Alberta and the future of Canada*. Montréal: Black Rose Books. 315–331.

Nadeau, G.G. (1992). The use of quality and excellence indicators in post-secondary education. *CSSHE Professional File*. 10. Winnipeg: Canadian Society for the Study of Higher Education.

Neal, J.E. (1995). Overview of policy and practice: Differences and similarities in developing higher education accountability. In G.H. Gaither (ed.) Assessing performance in an age of accountability. *New directions for higher education*. 91. 5–10.

Neave, G. (1980). Accountability and control. *European journal of education*. 15 (1) 49–61.

Neave, G. (1982). The changing boundary between the state and higher education. *European journal of education*. 17 (3). 231–41.

Neave, G. (1988). On the cultivation of quality, efficiency and enterprise: An overview of recent trends in higher education in Western Europe, 1986–1988. *European journal of education*. 23 (1/2). 7–23.

Nedwek, B.P. & Neal, J.E. (1994). Performance indicators and rational management tools: A comparative assessment of projects in North America and Europe. *Research in higher education*. 35(1). 75–103.

Newson, J. (1992). The decline of faculty influence: Confronting the effects of the corporate agenda. In W.K. Carroll, L. Christian-Ruffman, R.F. Currie & D. Harrison (eds.). *Fragile truths: Twenty-five years of sociology and anthropology in Canada*. Ottawa: Carleton University Press. 226–246.

Newson, J.A. (1994). Subordinating democracy: The effects of fiscal retrenchment and university-business partnerships on knowledge creation and knowledge dissemination in universities. *Higher education*. 27. 141–161.

Osbourne, D. & Gaebler, T. (1992). *Reinventing government: How the entrepreneurial spirit is transforming the public sector*. Don Mills: Addison-Wesley.

Owens, R. (1982). Methodological rigor in naturalistic inquiry: Some issues and answers. *Educational administration quarterly*. 18 (2). 1–21.

Padgett, J.F. (1980). Managing garbage can hierarchies. *Administrative science quarterly*. 25. 583–604.

Pal, L.A. (1992a). *Public policy analysis, 2nd Ed.* Toronto: Nelson.

Pal, L.A. (1992b). The political executive and political leadership in Alberta. In A. Tupper and R. Gibbins (eds.) *Government and politics in Alberta*. Edmonton: University of Alberta Press. 1–30.

Pal. L. A. (1997). *Beyond policy analysis: Public issue management in turbulent times*. Scarborough: Nelson.

Pannu, R.S. (1996). Neoliberal project of globalization: Prospects for democratization of education. *Alberta journal of educational research*. 42 (2). 87–101.

Parsons, D.W. (1995). *Public policy: An introduction to the theory and practice of policy analysis*. London: Cambridge University Press.

Peters, M (1992a). Performance indicators in New Zealand higher education: Accountability or control? *Journal of educational policy* 7 (3). 267–283.

Peters, M. (1992b) Performance and accountability in post-industrial society: The crisis of British universities. *Studies in higher education*. 17 (2). 123–139.

Peters, R. (1994). Some snarks are boojuns: Accountability and the end(s) of higher education. *Change*. November/December. 16–23.

Peters, M.C., Freeman-Moir, J. & Peters, M.A. (1993a). Competition in tertiary education. Unpublished paper. University of Canterbury, Education Department.

Peters, T. & Waterman, R.H. (1985) *In search of excellence: Lessons from America's best-run companies*. New York: Harper & Row.

Peterson, M.W. & Dill, D.D. (1997). Understanding the competitive environment of the post-secondary knowledge industry. In M.W. Peterson, D.D. Dill, L.A. Mets and Associates (eds.) *Planning and management for a changing environment: A handbook for redesigning postsecondary institutions*. San Francisco: Jossey-Bass. 3–29.

Peterson, M.W., Erwin, J.M. & Wilson, R. (1977). State performance-based budgeting. In J.K. Folger (ed.) Increasing the public accountability in higher education. *New directions for institutional research*. 4(4). 1–34.

Pfeffer, J. (1992). *Managing with power: Politics and influence in organizations*. Boston: Harvard Business School Press.

Pfeffer, J. & Salancik, G.R. (1978). *The external control of organizations: A resource dependence perspective*. New York: Harper & Row.

Polster, C. & Newson, J. (1998). Don't count your blessings: The social accomplishments of performance indicators. In J. Currie & J. Newson (eds.) *Universities and globalization: Critical perspectives*. Thousand Oaks: Sage. 173–192.

Power, M. (1994). *The audit explosion*. London: White Dover Press.

Pratt, A. (1998). Neoliberalism and social policy. In M. Lavalette & A. Pratt. (eds.) *Social policy: A conceptual and theoretical introduction*. Thousand Oaks: Sage. 31–49.

Pross, A.P. (1992). *Group politics and public policy, 2nd Ed.* Toronto: Oxford University Press.

Rajagopal, I. & Farr, D. (1989). The political economy of part-time academic work in Canada. *Higher education*. 18. 267–285.

Rajagopal, I. & Farr, W. (1991). Part-time faculty in Ontario universities, 1987-88: Institutional survey report. Toronto: COU Committee on the Status of Women in Ontario universities.

Rajagopal, I. & Farr, W. (1992). Hidden academics: The part-time faculty in Canada. *Higher education*. 24. 317-331.

Richardson, R.C. (1994). Texas. In S.S. Ruppert (ed.) *Charting higher education accountability: A sourcebook on state-level performance indicators*. Denver: Education Commission of the States. 94–103.

Ruppert, S.S. (1995). Roots and realities of state-level performance indicator systems. In G.H. Gaither (ed.) Assessing performance in an age of accountability: Case studies. *New directions for higher education*. 91. 11–24.

Schmidtlein, F.A. (1999). Assumptions underlying performance-based budgeting. Paper presented at the 39th Annual AIR Forum. Seattle. May 31.

Schneider, A. & Ingram, H. (1990). Behavioral assumptions of policy tools. *Journal of politics*. 52 (2). 510–529.

Schön, D.A. (1983). *The reflective practitioner*. New York: Basic Books.

Scott, G. & Gorringe, P. (1989). Reform of the core public sector: The New Zealand experience. *Australian journal of public administration* 48 (1). 81–92.

Sells, K.R. (1994). Linking budgeting to academic planning: The Wisconsin case. In R.M. Epper (ed.) *Focus on the budget: Rethinking current practice, state policy and college learning*. Denver: Education Commission of the States. 23–40. ERIC Document Reproduction Service. ED 375 790.

Senge, P.M. (1990). *The fifth discipline: The art and practice of the learning organization.* Toronto: Double Day.

Serban, A.M. (1997). Performance funding for public higher education: Views of critical stakeholders. Paper presented at the AAHE Assessment and Quality Conference. Miami Beach, June 11–15.

Serban, A.M. (1998). Precursors of performance-funding. In J. C. Burke and A.M. Serban (eds.) *Performance funding for public higher education: Fad or trend?* New directions for institutional research. 97. 15–24.

Sfand, A. (1998). On two metaphors for learning and the dangers of choosing just one. *Educational researcher.* 27 (2). 4–13,

Shillington, W. (1998). Director, Business Planning and Evaluation, Advanced Education and Career Development. Correspondence. March 4.

Sizer, J., Spee, A. & Bormans, R. (1992). The role of performance indicators in higher education. *Higher education.* 24. 133–155.

Slaughter, S. (1998). National higher education policies in a global economy. In J. Currie & J. Newson (eds.) *Universities and globalization: Critical perspectives.* Thousand Oaks: Sage. 45–70.

Slaughter, S. & Leslie, L.L. (1997). *Academic capitalism: Politics, policies and the entrepreneurial university.* Baltimore: John Hopkins University.

Spee, A. & Bormans, R. (1992). Performance indicators in government-institution relations: The conceptual framework. *Higher education management.* 4 (2). 139–155.

Stake, R. (1994). Case studies. In N.K. Denzin & Y.S. Lincoln (eds.) *Handbook of qualitative research.* Thousand Oaks: Sage. 236–247.

Statistics Canada. (1999a). Population. CANSIM matrices 6367–6379. www.statcan.ca.

Statistics Canada. (1999b). Population of census metropolitan areas. CANSIM Matrix 6231. www.statcan.ca.

Stewart, D. (1995). Klein's makeover of the Albertan conservatives. In T. Harrison and G. Laxer (eds.) *The Trojan horse: Alberta and the future of Canada.* Montréal: Black Rose Books. 34–46.

Stone, D.A. (1988). *Policy paradox and political reason.* Boston: Scott, Foresman and Company.

Taft, K. (1997). *Shredding the public interest: Ralph Klein and 25 years of one-party government.* Edmonton: University of Alberta Press and the Parkland Institute.

Tavernier, K. (1993). Are university funding systems in needs of an overhaul? In P.G. Altbach & D.B. Johnstone (eds.) *The funding of higher education: International perspectives*. New York: Garland. 83–99.

Teeple, G. (1995). *Globalization and the decline of social reform*. Toronto: Garamond.

Treasury. (1998). *1998 budget estimates*. Edmonton: Government of Alberta.

Treasury. (1999). *1999 budget estimates*. Edmonton: Government of Alberta.

Tupper, A., Pratt, L. & Urquhart, I. (1992). The role of government. In A. Tupper and R. Gibbins (eds.) *Government and politics in Alberta*. Edmonton: University of Alberta Press. 31–66.

Van Waarden, F. (1992). Dimensions and types of policy networks. *European journal of political research*. 21. 29–52.

Voegt, A.C. & Volkwein, J.F. (1997). A longitudinal study of institutional autonomy in thirty community colleges. Paper presented at the AIR 1997 Annual Forum. May 18–24. Orlando. ERIC Document Reproduction Service. ED 420 861.

Wagner, R.B. (1989). *Accountability in education: A philosophical inquiry*. New York: Routledge.

Watkins, K.E. & Marsick, V.J. (1993). *Sculpting the learning organization: Lessons in the art and science of systematic change*. San Francisco: Jossey-Bass.

Weick, K. (1976). Educational organizations and loosely coupled systems. *Administrative science quarterly*. 21 (2). 1–19.

Westfall. R.S. (1986). The rise of science and decline of orthodox Christianity: A study of Kepler, Descartes and Newton. in D.C. Lindberg & R.L. Numbers (eds.) *God and nature: Historical essays on the encounter between Christianity and science*. Los Angles: University of California. 218–237.

Wheatley, M.J. (1991). *Leadership and the new science: Learning about organizations from an orderly universe*. San Francisco: Berrett-Koehler.

Wiersma, W. (1995). *Research methods in education: An introduction, 6th Ed.* Toronto: Allyn and Bacon.

Wilson, J.V. (1989). *Bureaucracy: What government agencies do and why they do it*. New York: Basic Books.

Wilson, B. K. (1995). Cultivating the Tory electoral base: Rural politics in Ralph Klein's Alberta. In T. Harrison and G. Laxer (eds.) *The Trojan horse: Alberta and the future of Canada*. Montréal: Black Rose Books. 61–69.

Woodhall, M. (1991). Changing patterns of finance for higher education: Implications for the education of scientists and engineers. In D.S. Zinberg (ed.) *The changing university*. Netherlands: Kluwer. 45–53.

Yin, R.K. (1984). *Case study research: Design and methods*. London: Sage.

Yin, R.K. (1993). *Applications of case study research*. Thousand Oaks: Sage.

Yin, R.K. (1994). *Case study research: Design and methods, 2nd Ed.* Thousand Oaks: Sage.

Yorke, M. (1996). The use of funding to encourage quality in academic programmes: Some lessons from experience, and their applicability. *Quality in higher education*. 2 (1). 33–44.